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THE
SOPHISTRY
OF
EMPIRICISM.


MAGNA EST VERITAS ET PREVALEBIT.

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THE SOPHISTRY OF EMPIRICISM.

THE CLAIMS OF SCIENTIFIC MEDICINE.

THE present age boasts, and justly boasts, of its mighty advances in scientific and artistic discoveries. The transcendent results which have accompanied its researches in philosophy, mechanics, chemistry, and other sciences dependent on mathematics, are among the most remarkable phenomena of the time, and have stamped it with an ingenuity unrivalled by any former period of the world's history. But this is also an age of pseudo philosophy, of fanciful systems, where the demonstrations are unreal, being based on fallacious premises. These systems, however, are often very attractive to minds of a peculiar formation, whose notions of cause and effect are loose and inexperienced, and who are unable to disentangle the evidence from the accumulation of rubbish in which it is enveloped. If the doctrine or system propounded be preternatural, wonderful, refined, or capable of ingenious sophistication, its chances of propagation and belief among many, are in this ratio increased; while the dogmatism of its abettors and believers is zealous and enthusiastic beyond all reasonable conception.

Why such discrepancy in the phases of human belief, in an age so enlightened as this? Why are the exact sciences, and those arts and manipulations which depend on them, so little beset with false theories and fanciful practices as those of medicine, and we may probably add, legal and political economy? Simply because the cause and the effect cannot be so clearly developed in the latter as in the former cases.

Among inorganic substances, or those destitute of vitality, there are in general no internal processes going on, and when any change occurs after the action of another agent upon them, it may in general be referred to this operation. Thus, if you bring a magnet within the range of a needle, the latter is always attracted; and electricity can always be evolved from a battery constructed according to certain known rules. In

chemistry, a precipitate of magnesia can always be produced from bittern or sea-water by the addition of an alkali, such as potass; in like manner, gunpowder, with all its formidable properties, by the combination of charcoal, sulphur, and saltpetre; corrosive sublimate, the virulent poison, by combining chlorine and mercury in certain proportions. In engineering, steam with all its irresistible force can be so calculated that it commands movements and locomotion of the greatest certainty and regularity, and of unprecedented speed. Examples of this kind might be brought forward to any extent, but this appears to be unnecessary, as the facts are so well known; the case is, however, different when we experiment on organic bodies, in which the principle of vitality is exercising its influence; for in these, changes of appearance, difference of qualities, and chemical alterations are constantly going on by the play of their own internal operations. Many of the laws of the vegetable and animal economy have been ascertained with a certainty which leaves no doubt upon the subject; such as, in vegetables, the necessity for pure air and moisture, and peculiar qualities in the soil and manure; while in the animal creation, at least in the higher departments, it is equally ascertained that a pure atmosphere, nutritive food, regularity of the digestive and cutaneous functions, and exercise, are indispensable requisites. These laws have been determined by the universal experience of mankind, the exceptions being so few as to constitute a mere fraction in the calculation; but these, and others on which all mankind are agreed, are a small proportion of the infinite number of rules and regulations for the treatment of animals and vegetables in health and disease, which have, in this and former ages, attained celebrity and notoriety. As the morbid state of man, however, has always been paramount to all other considerations, and as it is specially connected with our subject, our attention here will be solely confined to this. Diseases, being in every case a deviation from health, arise from some cause or another; some agencies being external, others internal and more obscure from vital and chemical reactions among the various constituents of the human body. A certain proportion of these diseases will, in a short period, get well without the exhibition of any particular remedy, or without anything more than a strict attention to the general health; such as catarrhal affections, ephemeral fevers, mild diarrhoea, constipation of a moderate kind, slight inflammations, bruises, sprains, and several others. But there is also a certain class of protracted maladies, to a greater or less extent under the power of remedial treatment, which, in a proportion of instances, might spontaneously cease, even if left to little more than natural or hygienic measures. In these, the particular plan adopted generally gets the credit of the cure; and it is often a matter of some difficulty to unravel the conflicting evidence. The following may be adduced as exemplifications of such affections, viz. typhus, yellow and intermittent fevers, cholera, erysipelas, small-pox, measles, hooping-cough, scarlet fever, many forms of inflammation, croup,

hysteria, chorea, dysentery, scrofula, jaundice, amenorrhœa, tic douloureux, insanity, gastrodynia, simple ulcers and wounds, and many poisonous agents, &c. There is a third class which is considered absolutely incurable, where the disease is never or with extreme rarity cured, and by the progress of which the patient is more or less speedily carried to his grave; such as malignant growths, schirrus, many organic diseases of the chest and abdomen, dropsy of the large cavities dependent on organic disease, tetanus, hydrophobia, diabetes mellitus, hydrocephalus, organic diseases of the brain, &c. From these statements, it might possibly be imagined by some of our readers, that we mean to throw discredit upon the science of medicine, as of little practical value, since nature herself can cure many diseases; while those that are beyond her reach, are equally beyond the reach of the physician. This, however, would be a very narrow view of the matter; for even admitting to a limited extent the value of the argument, there still remain the services that can be given to nature in facilitating or expediting the cure, and in relieving the sufferings of the patient, with the almost certain demonstration that, in a considerable proportion, the aid thus afforded has averted a fatal result. Indeed, with a few exceptions of specific agencies, this is the only rational view of the cure of diseases; for if the natural functions be prostrate or incapable of stimulation, few experienced medical men would rely much on their curative applications. And why should not this rational view be universally admitted into our systems of physic; or whether would it confer the most advantage on the empirical or scientific practitioner? This question is by no means difficult to answer; or rather, it is very obvious that, according to the present belief of the public, every case cured under a certain system of treatment stands in relation to one another as cause and effect, and must give the former a much higher reputation for skill than his acquirements entitle him to.

Indeed, by the ordinary and habitual reasoning of mankind, a fortunate run of events has often secured to an empiric, or empirical practitioner, a much higher reputation for ability than his competitor who treated diseases with much more skill and caution. Prudence and ability have little chance in this arena, where good luck, chicanery, and bravado, are arrayed against them, provided the results are the only *criteria* of judgment. The public should therefore be enlightened as to the state of the case; and in some diseases, such as pulmonary consumption, cancer, water in the brain, &c. the intelligent of all grades are aware of their general incurability; for if medical writers continue their pretensions above the standard of a scientific and truthful experience, the charlatan, as far as the opinions of non-professional people are concerned, cannot fail to contend with more or less success against them. It is a singular fact, in the history of mankind, that notwithstanding the regular and statistical mortality of those epidemics and other diseases that carry off the majority of the human race, and notwithstanding the comparatively

limited power which we possess in controlling them, or warding off a fatal termination, and in spite of the revolutions of opinion which have taken place in our estimate of the powers of drugs and special preparations, there is less scepticism in the faith of the public respecting medicine than on almost any important interest belonging to them. And this would be the case even although the whole truth was made as palpable as noon-day; for, though it be granted, that, in our sweeping epidemics, such as typhus, cholera, scarlet fever, small-pox, measles, &c. medical treatment has only a comparative control over these diseases, the public will gratefully accept of that resource whatever be its value, inasmuch as it is based on scientific experience, giving assistance to the processes of nature, and being opposed to the reckless doses, injudicious interferences of meddling practitioners, unprincipled empirics, and the helpless imbecility of expectant physicians. We are satisfied that these statements would be borne out by statistics, if such were in existence to compare the plans; but this much may with safety be asserted, that the great and common-sense authorities in the medical profession are not believers in specifics for the cure of this class of maladies, nor do they entertain notions of their curability contrary to the well ascertained experience of large establishments. Thus, during the prevalence of typhus fever, some practitioner treats successfully ten, twenty, or forty cases, in a particular way and under particular regulations, and reports his result as extraordinary, perhaps without one fatal termination; and this to his limited experience may actually appear conclusive in favour of his means and appliances, for he compares it with statistics a thousand times more extensive than his own. In hospital experience, we have known fifty cases treated in succession, and not selected, without a fatal result; and on the very same plan, and by the very same physician, a mortality of one in seven or eight occurred, when the phase of the disease had changed and become more malignant. Facts similar to these, and they could be furnished by all our epidemics, prove two things: first, that no certain conclusion can be drawn from a limited number of successful results; and, second, that epidemic agencies, the nature of which is in most cases only conjectural, are the chief causes of an increased mortality. Such facts being known, a hasty reasoner might naturally jump to the conclusion, that medicine can do little or nothing under circumstances so dire and seemingly so destined. But this would be an erroneous view of the matter; for though medicine cannot effect so much as is desirable, in many febrile maladies, in warding off a fatal termination, it can indubitably contribute something considerable in this direction; and we doubt not that, at some future period, a more accurate statistics will conclusively show the diminished mortality of those treated upon the proper scientific principles, when compared with those treated empirically, or with what is called the "heroic system." But reasoning, and the opinions of all the able and enlightened physicians of our large establishments, may in the meantime

satisfy us, that the fatal tendency may, in a certain proportion of cases, be prevented by judicious treatment, viz. by attending to the regular performance of the functions of the body, by rest, supporting the strength by regulated diet and stimulants, by supporting the heat, and by treating local affections when they occur by the appropriate remedies; and that this method will be more successful than large bleedings, vomitings, excessive evacuations of the bowels, &c. which never check the disease, which destroy the patient's strength, and render him unable, in the latter stage, to struggle with the potency of the poison circulating in his system. This plan must not be confounded with the *expectante* or bread-pill system, which is imbecile and emasculated of every noble attribute; although it must be confessed that an injudicious interference with the powers of life is the most dangerous of the two extremes. But even in those diseases which are considered incurable, or almost so, medical treatment can effect a great deal in assisting the processes of nature. Let us take pulmonary consumption, the most incurable and fatal of maladies, and which numbers more victims, in our temperate climate, than any other disease. Is medical treatment totally valueless in this formidable affection, and has no cure ever been demonstrated, and can its progress not be checked in the incipient stage? It is, alas, too true, that the cures of this disease, in its suppurative stage, are so extremely few as to render the proportion incapable of arithmetical calculation, and they have been deduced more from anatomical examination than from proofs during life; but in its incipient stage, when the tubercles are only in embryo, a change of climate and a regulated regimen may and has often effected much, and this treatment can only be pointed out with accuracy by a scientific examination of the patient. Even in the confirmed disease, the infinitesimal chance of cure will be eagerly embraced by the invalid, and ought to be seconded by every rational effort on the part of the medical attendant. This, however, is not to be done by what is called active treatment, or a system of violent aggression on the strength and energies of the system, nor by the exhibition of any of the thousand specifics that have been vaunted and believed, during the lapse of ages, and then consigned to oblivion, to make room for a successor doomed to the same fate; but by gentler and safer means in the management of the general health, by every method and appliance known to be of value, by the regulation of the temperature and diet, by supporting the strength, by local applications, such as small blisters, cupping, or leeching, to relieve local pains and check inflammatory action, by medicines of a tonic and expectorating kind, and, when death is inevitable, by all the resources of our art in soothing pain and relieving distress, with as little derangement to the functions of the body as is possible under the circumstances.

But medicine, besides its ascertained power in assisting nature in intractable and almost incurable diseases, and in soothing the pains and assuaging the griefs of those who are on their passage to the grave, is

entitled to assert its almost certain control, in a given time, over a class of maladies which, without its aid, might be greatly protracted or possibly fatal. Constipation and obstruction of the bowels, the latter often a formidable affection, is almost always within the range of medical relief. In functional and simple inflammatory affections of the liver and urinary organs, mercurial purgatives, diuretic and other means rarely fail in their beneficial effects; retention of urine, from various causes, can, in an immense majority of cases, be successfully treated; strictures, with all the varieties of local disease which affect the anus, &c. are under perfect control; hernia can only with certainty be distinguished and treated by a properly educated medical man, and, when strangulated, by the skilful operator; syphilis of the primary kind is almost always curable by simple though scientific means; and mercury, when properly exhibited, is almost a specific against the occurrence of secondary symptoms; spasm and cramp of the stomach can be cured, as if by a charm, by opium in combination with other agents; cholera, although almost incurable in its confirmed stage, can, according to a well-founded belief, be checked in its incipient or diarrhœal form by opium and its various preparations; intestinal worms, of all varieties, can be exterminated and evacuated by the appropriate remedies; various internal hemorrhages can, to a greater or less extent, be commanded by internal or other treatment—and when external always by the well-educated surgeon; suspended animation can be treated successfully, when death otherwise would have been inevitable; poisons can, in most cases, be evacuated from the stomach, or their virulence neutralised by chemical combinations. In diseases of the eye, an organ so conducive to the comfort and well-being of man, much can be done with certainty. Almost the whole tribe of ophthalmias are under the direct range of curative treatment; and cataract can be removed by operation, as well as several other diseases of the eye, eyelids, and their appendages. Cinchona and arsenic have a powerful influence, according to our best authorities, in checking the progress and intensity of intermittent fevers and other periodic affections. Parturition is also, even without instruments or more than the usual manual assistance, under its certain domain. Without alluding to the many fabulous and problematical prescriptions to which we attach little importance, we may mention the influence of the ergot of rye as established, and when employed at the proper period and with due regard to all the circumstances, almost uniformly successful, and not injurious either to mother or child; and without admitting or denying some of the modern innovations introduced into this department, we may confidently assert that safety, to a certain proportion of mothers and children, is effected by a judicious or instrumental interference, which, although little appreciable by statistics, must still be admitted as a result of an antecedent cause. In illustration, we may take a case of breech presentation, where it is well known, that if, in a majority of cases, assistance be not contributed at the proper period, the life of the child is placed in the

utmost hazard. Independent of all this, medical science has thrown a certain light upon the symptoms of pregnancy, and the evidences of recent parturition, which are not only of great value in the treatment of disease, but are indispensable for the due administration of the law.

Local swellings and inflammations, not specific, are almost always speedily remedied by leeches, blisters, and calomel and opium, &c. and other agents internally. In ulcers, superficial erysipelatous and erythematic inflammations, chilblains, and many chronic cutaneous diseases, the application of several agents externally, such as nitrate of silver, preparations of iodine, mercury, copper, and sulphur, are almost certain in their curative effects. In operative medicine, we may point confidently to abscesses, where not only great relief from suffering is obtained, but danger averted by the evacuation of matter; to the extirpation of polypi by the ligature or knife; to tracheotomy, in obstructions of the upper part of the windpipe, from accident or disease, by which impending suffocation is averted; to the operation for aneurism, by which the risk of fatal hemorrhage is averted; to lithotomy and lithotripsy, by which intense suffering is relieved, with a prolongation of life; to carious and diseased bones and incurable tumours, where amputation gives a strong chance of recovery against an almost certain death; to the cure of wounds, where not only comparative comfort is secured, but danger averted; and to the removal of foreign bodies, projected by violence into some part of the body, where much skill and consideration are often required; to dislocations and fractures, the treatment of which has arrived at a high degree of perfection; to the successful treatment of hydrocele, ganglion, naevi; the extirpation of tumours not complicated with constitutional disease; the evacuation of fluids from various cavities, such as the chest and abdomen, and the permanent cures sometimes effected, with the alleviation of suffering and prolongation of life where this was not attainable. Let us also take into view the mighty strides which medicine has in modern times attained in diagnosis, the basis of all true and successful treatment and discovery in the medical art. In diseases of the chest this is remarkably the case, for the most characteristic symptoms are now founded on the laws of physics, and have therefore a mathematical claim to accuracy; but in those of the abdomen and brain, the great advancement of anatomy and physiology has rendered them of late years much more definite and precise. In the chemistry of the animal system, many discoveries of a practical kind have been made. We have already alluded to the discoveries respecting the neutralization of poisons, and their evacuation from the stomach; but this is not all, for in the detection of criminals of every dye, the investigations or analytical examinations of the scientific physician are indispensable in the due administration of justice. If scientific medical inquiry and investigation, such as are now pursued, were to be replaced by some of the systems of empiricism (which we shall shortly place under review), the whole range of these beautiful and

useful researches would speedily be abandoned, and the field again become as barren as it was in the dark ages. Specifics for some of our formidable diseases, such as vaccination, although not highly probable, are still within the range of discovery by scientific men; and few sensible people would assert that mysticism and transcendentalism would be good substitutes for cautious experiment and observation in such investigations; or that the advocates of scientific medicine would not immeasurably excel their opponents in the catalogue we have placed before them. These illustrations of the benefits derived by the public from true medical science, do not by any means comprehend all or even the major part that can be brought forward in its favour, but ought undoubtedly to be considered as proofs of its certainty, its scientific basis, and its indispensable utility. Its curative operations are still limited, and may remain so, for what philosopher would have the hardihood to assert that the great law of mortality can be annihilated? but though it cannot prevent death and ultimate dissolution, it may ward off, for a time, its immediate or more remote attacks, by means and adaptations founded on the laws of the animal economy, and the influence of salutary and injurious agencies in respectively restoring or deranging its functions.

CIRCUMSTANCES WHICH FAVOUR THE PRO- DUCTION OF EMPIRICISM.

The Practice of Medicine in all ages has been enveloped in more or less mysticism. This has arisen chiefly from the following causes: 1st, from the curative operations of nature being confounded with those of art; 2d, from there being a belief in supernatural or imaginary agencies; 3d, from wilful fraud and imposition. It has already been shown, that in a certain proportion of diseases, nature is the chief agent in curative operations; and that art, even when exercised with the most scientific skill, can only be available in so far as it assists and harmonises with these endeavours, or in so far as it assists the *vis medicatrix naturæ*; so it follows, that if the *post hoc ergo propter hoc* system of argumentation be pursued, the antecedent prescriptions will be considered the cause of the cure or ameliorations. This arena is open to all kinds of competitors; and gladiators of whatever grade, from the regular practitioner down to Dr. Lignum, or the enlightened discoverer of the wonderful Revalenta Arabica, have chances of success. This may appear a somewhat startling assertion; but it is, nevertheless, one of verity, and arises solely from the misconceptions and want of information on the part of the public. But it is not alone the unenlightened and imperfectly educated part of the public who are duped by this mode of reasoning; but even men of science, great mathematicians, and celebrated literary authors have often been found its believers and abettors. The student of mathematics, and those physical sciences which depend upon it for their demonstrations, has before him fixed and determined data, from which to draw an inevitable conclusion; and no ingenuity or sophistry could possibly prevent this result. Hence many abstract reasoners of this class, who are little acquainted with the vital world, its minute organic structure, its operations and its irregularities, from external, internal, and unascertained causes, are very liable to be deceived in coupling the antecedent and the result in the same close relation as they would unite cause and effect in demonstrations of the laws of physics. A little investigation and experience will readily unfold to us, that the reasoning which applies to the laws of inorganic bodies cannot be applied to those of the living organic world; for there is a superadded

principle in the latter, which, to a certain extent, hinders their operation or prevents their development; or by a series of movements and actions peculiar to the structure in which they exist, may exhibit phenomena entirely of their own production, uninfluenced by either external or internal agency. Thus the literary man may depict animal life in all its numerous and interesting varieties, and may portray passion, suffering, disease, and death, with a masterly hand; but he may still be deceived, because he has not studied the derangements of its minute and refined machinery, in regard to their causes, or to the possible or impossible powers of real or presumed agencies, in influencing their change or removal. Supernatural and preternatural agencies have also, from the most remote periods, been celebrated for their efficacy in the cure of diseases; and priests, in the primitive ages, were considered the most experienced sages in these recondite and secret mysteries. That they possessed some real medical knowledge, there can be no doubt; but it is equally clear, that they ingrafted on this much that was delusive and calculated to act powerfully on the imagination and feelings of the patient. Every circumstance was taken hold of to enhance the wonder of the cure; and the miraculous interposition of spirits and deities were pointed to as the source of the sanitary change. In those days, the supposed cause and the result were linked together as inseparable; and though the regular mortality of races stared them in the face, scepticism was never dreamed of. This is not to be wondered at, however, in an age when the air and the earth were supposed to be peopled with invisible agents, whose power over the inhabitants of this globe, for good or for evil, was considered nearly omnipotent. In the present age, much of the legendary belief on general subjects has been exploded, by the pure light of science and by a reformed Christianity; but there still lingers, among almost all classes, a kind of superstitious hankering after mysteries and occult operations in the cure of diseases. The exhibition of a few tiny powders, some infinitesimal globules, one or two farinaceous pills, the radiation of mesmeric flashes, the wet sheet with its ingenious and fantastic modifications, the jugglery exercised in the manipulation of sacred bones and coffins, the prayers and orations of some transcendent saint or priest, the talisman of an excited devotee, or the nostrum of the thorough-paced empiric or mountebank, have all their manifold attractions and enthusiastic believers. Each and all of these have, no doubt, an operation on the system, for good or evil; but the result, in most of these, is very problematical, and can be predicated by no law derived either from nature or experience. It may, no doubt, be asserted, that the operation of certain quack medicines has been clearly ascertained from extensive experience of their utility; and it would be rash, and probably untrue, to say that there are none of this character; but assuredly the type of this genus is irregularity, violence, and incertitude, on any given function of the animal economy, and therefore extremely hazardous in their employment. In the other departments,

the feelings and imagination of the patient being the principal channels through which the good or evil is communicated, and so well known for their irregularities from the influence of circumstances, it is equally obvious that the results must also be very uncertain. But there is, moreover, another class where mysticism is combined with trickery, falsehood, and imposition of multifarious shapes, where the performance of gross impossibilities is asserted with unblushing effrontery, and where every disease that flesh is heir to must yield in pliant submission to some so-called universal agent. It is said that a drowning man will catch at a straw for support; we need not wonder, therefore, that a feeble, forlorn, and moribund man should grasp at a nostrum equally unsubstantial and fallacious.

MESMERISM.

"In magic he was deeply read,
As he that made the *Brazen-Head*,
Profoundly skilled in the Black Art,
As English Merlin for his Ilcart."—HUDIBRAS.

Although the manipulations of Mesmerism, or those peculiar movements of the operator called "passes," with their subordinate varieties, are, in general, described circumstantially enough by authors and performers, a definite opinion of its nature or essence is not always clearly recorded. We find the following, however, in a Manual on this subject; and as it is always of importance to have some tangible principles to reason from, we shall quote the definitions or views:—

"I do believe that there is a mesmeric emanation proceeding from the mesmeriser, which is imparted to and received by the subject or object mesmerised. That this influence is a portion of that power or force which is generated by his brain, and by which the voluntary and involuntary functions of his organism are actuated and maintained. That this force or power is an imponderable, analogous to or resembling the force or active influence of electricity, galvanism, and magnetism. That the mesmeric power is communicable by direct transmission, and produces special effects as a consequence of its reception; and that effects may be produced by induction also (like states causing like states), without a designed transmission. That when effects are caused by transmission, the mesmeriser loses that which he gives; when by induction, the effects are produced without sensible loss of power. That the influence by which the mesmeriser cures diseases is a vital influence, a portion of that power which maintains his own organs and their functions in health and healthy action—and when imparted to a patient it is capable of causing healthy action in his organs (the patient's), and thus restoring them to a state of health—the influence of the mesmeriser subserving for the use of the patient. That induction may indirectly produce the like effects in a lesser degree, or diseased states may be caused by induction; that direct mesmerism, by transmission, is dependent on the operator's volition; that indirect mesmerism is involuntary; that clairvoyants, and some sensitive persons in their waking state, do sec this mesmeric influence, which they describe as a luminous emanation; that there is evidence of the existence of a mesmeric

influence, quite as conclusive and satisfactory to all who seek for it, as the evidence on which philosophers believe in the existence of electricity, galvanism, or magnetism.”*

Without encumbering our pages at present with more of these ethereal aphorisms, enough having been quoted as a fair starting point for our argument, we shall proceed at once to the investigation of the evidence on which mesmerism founds its claims to truth and science. It is obviously unnecessary to handle every particular division which some writers have thought proper to make; but for the proper elucidation of the subject, and with the view of taking no unfair advantage of our opponents, the leading doctrines, or what are believed to be such, will be discussed in the following order:—

1. THE MESMERIC PRINCIPLE, THE MESMERIC PROCESSES, AND THEIR EFFECTS.
2. CLAIRVOYANCE, INCLUDING INTRO-VISION, &c.
3. PHRENO-MESMERISM.
4. THE CURE OF DISEASES BY MESMERISM.

1. *The Mesmeric Principle, the Mesmeric Processes, and their Effects.*

In this division, the first point of importance is the nature of Mesmerism, and as this is considered susceptible of proof to as great an extent as that which supports the existence of galvanism, electricity, and magnetism, there are here some tangible subjects for comparison. What are the evidences upon which these latter agencies are believed to exist? Electricity or galvanism can always be excited, in certain bodies, if the rules for its production and manipulation are attended to. Thus, glass by friction can be made to attract and repel light bodies. Similar properties are possessed by sulphur, resins, gum, silk, wool, hair, &c.—these are called electrics. Again, other bodies are conductors, such as metals, and these convey the active agent, whatever that is, to indefinite distances, with the rapidity of lightning. Its presence is proved by the luminous streams and sparks it evolves, by its chemical agency, and by the shocks or convulsive movements it occasions when passed through the body of an animal. Again, a galvanic battery, constructed with zinc and copper plates, and with the intervention of a chemical agent, such as dilute nitric acid, is unerring in its action. Water by it is decomposed into its gaseous elements; salts are separated into their respective acids and bases; even the metallic bases of potass and soda have been isolated by its means; its power in producing ignition and light is remarkable; and its force can be concentrated so as to extinguish animal life of the most powerful kind. Magnetism is also a certain science, and its phenomena can be safely calculated. The needle always points to the poles, although it has deflections and variations; and the results which flow from electro-magnetism are also uniform in their character. There is no contingency in any of these

* George Barth's Manual, 2d Edit. p. 193.

sciences; on the contrary, they are so based on calculation as to be made available, to a most extraordinary extent of accuracy, in the operations of social and practical life. With the magnetic needle, the mariner can calculate his course on the trackless ocean with a certainty unknown before the discovery of the compass; by the galvanic battery—independent of its utility in medicine, and now in an important art, electro-plating—we can convey thought from one country to another, and even across an arm of the ocean, with inconceivable rapidity; and a regular supply of light can, by its agency, be supplied. Now, what has mesmerism to bring forward in proof of its being a kindred science? The abettors of this system state that they can produce, by its agency, waking-sleep, rigidity of the limbs, catalepsy, traction, clairvoyance, phreno-mesmerism, mesmerisation of inanimate substances, &c.; but they do not state that these effects can be produced in every person, nor in the majority of persons, but only in a certain number of what they call susceptible persons, which in general is fractional in its quantities. Were we even to admit their own exaggerated averments, we would ask what real analogy can subsist between mesmerism and electricity, with its sister science magnetism? This first, viz. mesmerism, is only successful, in any of its operations, on a small proportion of mankind, and it is well known that young persons and females constitute a large number of impressible individuals; while an invariable result accompanies the second, whether the operations be performed on the living or inorganic creation, provided the rules be duly attended to. Such uncertainty and irregularity is totally opposed, and would be fatal to every science which rested its claims on experiment and observation. There is therefore, from analogy, no true or experimental foundation for the belief that a power similar to electricity and galvanism can be generated by one human being and transferred to another by any process whatever. No doubt, it has been the opinion of certain philosophers that the brain communicates with the other organs of the body, through the medium of an electrical current traversing the nerves, and mesmerism has, in all probability, acquired many believers from this seeming analogy, and from the employment of practices and use of terms calculated to encourage this notion. It is not our duty here to enter into this intricate question, but we believe few accurate thinkers are of opinion that we know anything whatever about the nature or essence of the agency.

But the mesmerists may, or rather do, rest their claims to a scientific station upon their powers over the “susceptibles.” Now, there are certain of these phenomena, which may be admitted as very probable results in such cases, although we do not pledge our unqualified belief in all their statements. These are—sleep, sleep-waking, rigidity, or a tetanic state of some of the muscles of the body. These may appear to a spectator extraordinary effects, produced by staring, and the other manipulations and evolutions of the mesmeriser; but before he draws a definite conclusion

on this point, he ought to know or recollect, that many other agencies totally distinct from electricity, magnetism, or any similar power, will produce effects of a very analogous kind. Thus, opium, as is very generally known, causes sleep; alcohol, also, when taken to a certain amount, is followed by sleep, and in young persons by a state of stupor that is often alarming. Both of these may produce powerful effects on the muscular system and voluntary organs. Chloroform produces a confusion of ideas and a temporary paralysis; hyosciamus or henbane causes delirium, distortion of face, and disturbance of vision; belladonna, dilatation of the pupils, visual illusions, and finally delirium and sleep; strychnia, tetanic rigidity of the muscles; hydrocyanic acid, convulsions, and death in a few minutes after the exhibition of a poisonous dose; and the poison of some serpents causes death rapidly, with convulsive movements. Joy and grief are well known to produce powerful effects on the system; and authors relate instances of sudden death, insanity, convulsions, or epilepsy, as caused by such emotions. Mechanical irritation of the nerves causes convulsive movements in the limbs to which they are distributed, and tetanus is sometimes a result of an injury to these organs. These are only a few exemplifications of the operation of various agents on the human body, in order to show that more powerful and more wonderful effects can be produced by substances long known and recognised, and to prove that things more astonishing than mesmerism, even including some of its marvels, and equally beyond the reach of thorough explanation, have been long known; but being recognised as established truths, and not being within the range of dramatic representation, are treated with the same amount of interest, or with as little reflection by the public, as are the mighty revolutions of the planets or the tides of the ocean. In any of these examples, no possible combination of ingenuity could bring mesmerism to bear on any of these varied operations, even supposing the substances had, *secundem artem*, been previously mesmerised; for the amount of symptoms and consequences were greater and dissimilar, in many points, to those produced by this influence. But, independent of these illustrations, Mr. Braid's experiments prove distinctly that an effect similar in almost all respects to the ordinary phenomena of mesmerism, such as sleep-waking and rigidity of muscles, can be produced by staring at an object placed above the eye, or by steadfastly looking at an object in a squinting direction. In such a case, no mesmeriser requires to be present, and the thing stared at may preclude the possibility of any special mesmeric impregnation being applied, or rather, we should say, of such being alleged. It therefore follows, that the staring process must be the cause of the resulting phenomena. But it is contended, by the mesmerists of uncontaminated blood, that when a person is thus acted on by staring at a disc of zinc and copper (which process has been learnedly baptised *electro-biology*), it is not the staring that effects the change, but the indirect influence of the operator, who is present. This supposition is be-

yond all question unphilosophical, for a cause (*viz.* the staring) sufficient to produce the effect is present; hence, the other must be a gratuitous assumption, for two causes are not required to produce one and the same result. This staring process may be explained, from its peculiar effect on the functions of the brain; for as somnolency or dosing is a very common phenomenon of injuries to this organ either great or small, as well as of internal agents that act upon it specially, the belief has a physiological basis. In the ordinary waking state of the eye, it frequently changes its position, and is free in all its movements; while during sleep it reposes, if the sleep be sound, but there is no constraint upon it; because the voluntary muscles which act upon it must be relaxed, like those in other parts of the system. In staring or squinting at an object for a length of time, the eye is fixed in its position by an effort; hence there must be tension of the muscles of the eye and eye-balls, which may cause an unnatural pressure on the optic nerve and blood-vessels, separated from the brain only by a thin lamina of bone. This is by no means a fanciful supposition, for the optic is a large nerve, is short, and intimately connected with the brain, until it passes through its osseous opening, and is there expanded on the eye-ball. But have we not many common analogies to bear upon this question?

Is it not notorious that men and women fall asleep, when alone and staring at the fire, in some dreamy reverie? Does not plaintive music induce a placid slumber, even although at a distance; and are not the sweet voices of doting mothers often attuned for lulling the turbulence of fretful children? Is rocking in a cradle a successful opiate, and can the mesmerist explain its *modus operandi*? will excessive crying prove a reactionary sedative? will an excessive exertion tend to produce somnolency? does a comfortable dinner ever induce drowsiness, and will not a stomach overcharged with indigested or indigestible matters sometimes generate sopor and apoplexy? Does nightmare not paralyse some, and make others somnambulists? and have not men in their dreams done extraordinary feats, in the way of climbing, leaping, shaving, &c.? will excessive grief not produce torpor of all the sensorial functions? and are not hysteric movements the result often of mental agitation, when no mesmeric influence could possibly be alleged? Why is a darkened and noiseless chamber conducive to sleep? Is it not that the external world is excluded, and the brain becomes thereby inactive and torpid, or, in other words, is not exerted? and does not staring at one object, for a length of time, tend to cause listlessness and inactivity of mind, and may thus contribute its quota in the production of mesmeric sleep? The peculiarity of this sleep is supposed to partake of specific qualities, because pricking with a pin, pinching the skin, and the application of one or two varieties of stimuli do not rouse the patient; but is it not a fact that hard labourers often sleep so profoundly, more particularly if they have previously indulged in alcoholic liquors, that an immense amount of shaking,

pinching, and other processes of this kind are required to rouse them from their lethargy? and we have frequently performed vaccination upon an infant, during sleep, without arousing it. It now becomes our duty to advert shortly to the value of mesmeric manipulations and their probable explanation. These consist chiefly of the staring process, the most effectual being considered that which is directed to the operator's eyes, and passes with the hand, holding the hands of the patient, &c. The inner surface is believed to give out the magnetic *aura* most potently, while the posterior aspect of the hand is supposed to radiate little or no influence; hence the former, or inner surface, is presented to the head, carried down, and then brought backwards in a reverse position. It appears that this belief is thought to be supported by the fact, that a bar of steel may be magnetised by hammering with a magnet placed in a particular direction. This may be true with regard to the relations between a magnet and a bar of steel; but it by no means follows that a statement unsupported by any uniformity of experiment, and based upon so foolish and extravagant an analogy, has the smallest foundation in truth. Many other processes, or modifications of them, are employed, but they are resolvable into staring, touching, and varieties of manipulation. As we do not, however, mean to discuss their relative importance, as having no weight or bearing upon our argument, and as we are willing to allow all reasonable credit for discoveries in the art of manipulation, it is unnecessary here to describe them. But an important admission must also be stated, viz. that the will, and a strong one too, must accompany the processes, and that the operator must be strong and healthy, and be possessed of the organs of Firmness, Combativeness, Concentrativeness, Self-esteem, and Benevolence. The demesmerising process is said to be the withdrawing the power which had been projected into the patient, "by blowing, fanning, making transverse passes, the application of cold, and a few upward passes if indispensably necessary." Attention, it is alleged, must be paid to have the will of the operator in unison with the act, and care must be taken not to make transverse passes if sleep be wanted for the patient, or downward passes if the state of slumber is to be terminated. Before we endeavour to analyse the nature and alleged peculiarity of these manipulations, we must examine the effects of the emotions, feelings, and sensations of mankind upon their physical and mental state, and also the influence which one human being may make to bear upon another in regard to these. We have already adverted to the effects of the feelings in overpowering the physical frame. A person receives notice by letter of the sudden death of a valued friend or near relative, or of some great calamity which has befallen himself or family, and he suddenly swoons, remains in a lethargic state, or is incoherent, with agitation or convulsive movements, is conscious when spoken to, but perfectly absent from the external world around him. A female of irritable or excitable temperament may have met with some disappointment, or been thwarted in her pride by opposi-

tion to her wishes; and this may be followed by a flood of tears, sobbing, &c., or it may produce alarming torpor, from which it is sometimes difficult to arouse her. A man of ordinary nerve may be able to converse fluently among his friends, and make capital orations for their behoof; but if called upon to appear before a large assembly, he may suddenly lose all recollection of things past and present, stammer and speak without meaning, and finally collapse into a dreamy abstracted state; or a sensitive individual, if introduced for the first time into the presence of royalty, some magnate of the state or person of distinction, may shake and quiver like an aspen leaf, while his heart is beating with tumultuous leaps, and his tongue, if he essays to speak, may cleave to the roof of his mouth. Abstracting altogether the influence of one sex upon another, which might be objected to as not perfectly relevant, it is well known that one person can act upon the feelings and emotions of another to an extraordinary extent. Men of herculean, powerful, or gigantic formation often command obedience by their very look, not only on man but many of the lower animals, while other men of equal moral force exercise less; but dictatorial persons, in general, gain the ascendancy over easy tempered and facile individuals, even although the proportions of the former are physically inferior. Again, intellectual and moral force carry everything before them. What General ever commanded more power over his numerous armies than the late Emperor of France, although he was a man of small stature? Was Pope a man of small influence in society? Who does not feel a thrill of emotion at witnessing or hearing of the heroic, the great or generous deed? and who would not be attracted with irresistible power to Britain's matchless warrior, lately deceased, whose genius, achievements, patriotism, and singleness of purpose, are unparelled in history, a combination marvellous for its perfection? What man of ordinary education has not felt the power of eloquence from the pulpit, the senate, the bar, or the platform? Has he not felt passion, enthusiasm, and other delightful feelings thrilling through his frame, like a pleasureable stream, while his mind is entranced with images of beauty, lofty conceptions, and sounds of melody.

Can any or all of these cases, then, be resolved by mesmerism, or are they the result of the physiological laws of the animal economy? It is clear that, in those instances referred to where no operator was present, and where no mesmeric effect was intended, this influence could not be supposed to exist; but it might be alleged that in the case of the warrior or orator, a mesmeric radiation was discharged, as if from a galvanic battery, upon the listening and enraptured audience. According to the orthodox version of mesmerism, the vital force of one individual can be thrown, by the possessor, into the body of another, by the manipulations already alluded to; and it may be asked, by the advocates of this system, If it be not this power what is it? for one man is influencing powerfully many hundreds, perhaps thousands of human beings, by voice, gesticula-

tions, and manipulations, multiplied sometimes *ad infinitum*. It would outrage all common sense and analogy to assert that one man could influence mesmerically, at the same moment, such an assemblage of human beings; but it might be asserted and believed by a credulous generation that, like an electric communication, a chain might be formed in the dense crowd, and the *aura* or impression conducted from one to another. We have adduced these illustrations, not with the view of proving their identity with the mesmeric sleep, but to show that one person can influence another with a power as great as mesmerism, in situations where it would be a manifest absurdity to say that the supposed cause was equal to the effect, or that the vital emanations from a single man could overpower some thousands of individuals, at the same moment, who had no unbroken contiguity with one another; or that the feelings and emotions generated by novel and romance reading could have any such origin. The mesmerist is therefore shut up to the conclusion, that if it be an emanation from the operator which causes sleep, it must also be a similar principle which causes the sensations, emotions, and other effects alluded to; which would be proving too much, viz. either an absurdity, or what is impossible in the circumstances of the case. But the mesmerist may attempt to evade this conclusion, by asserting that these effects are quite different in their nature from what *they* produce, and are the result of an appeal to the passions, feelings, and reason of man. But why have recourse to such a subterfuge, when, according to their doctrines, they ought consistently to construct a battery—by a combination of the organs of Combaticeness, Ideality, and Wit—and make it scintillate and thunder, with mighty force, upon the whole outer and inner man of the assembled multitude? The mesmerist may no doubt scout this also, by one flourish of his mystic palm, and then snugly intrench himself behind his magic formula. Is there anything, then, in what is called mesmeric processes and passes, to engender confidence in their necessity as a means for making the influence of one person to bear upon another, or are they not naturally calculated to excite notions of humbug and legerdemain? But although the latter feelings may be the effect produced on a philosophical mind on witnessing their operations, we hold it quite unfair to condemn any manipulation without a calculation of its efficiency. This has already, we hope, been done negatively, by proving that there is no evidence for the existence of an emanation passing from one human body to another, when the one exercises influence on the other, in any conceivable form, morally or physically. And secondly, that such an emanation, which by their own admission is a kind of assumption, is impossible in certain cases, viz. in those where disastrous news have been communicated by letter, in the reading of stories and romances, and in the effects of eloquence in a numerous assembly. Let us see, however, in what respect mesmeric operations differ from the ordinary means employed by mankind in influencing their families and friends. First, it is said that all men could mesmerise, but

all men are not good mesmerisers. This is true of almost every mechanical and intellectual operation. He must possess the organs of Firmness, Combateness, Self-esteem, and Benevolence; or, in other words, he must be a determined, persevering, and good-hearted man, with confidence in his own ability—which qualities are eminently necessary for success in our every-day influence on mankind. A mesmeriser must be in good health; so must everybody else who is engaged in active operations of any kind. It is considered a matter of great importance that a mesmeriser of the sick should have good health, patience, perseverance, and an earnest desire to do them good, with a belief in his ability to serve them; so indeed will the physician be the most successful who possesses these qualities, his very manner being essential. The young mesmeriser is recommended not to try experiments on persons subject to epileptic fits, or other convulsive diseases; so every sensible medical man inculcates the avoidance of all excitement in these affections. For producing mesmeric sleep most successfully, it is necessary to exclude strong light, and all unnecessary witnesses—the room is to be kept quiet—the patient is to be assured that no harm is intended, and soothed by pleasant language—placed in an easy chair, with the mesmeriser seated opposite to him, his knees between those of the operator, and in the case of a female on the right side. The patient's right hand is then firmly grasped, in such a way that the fleshy parts of the thumbs of the two persons are in contact, and the inside of the mesmeriser's finger-tips in the palm of his hands. He is then to look intently, for fifteen minutes or half-an-hour, into one eye of the operator, who is directed to gaze determinedly, as if he could look into the brain, and respire strongly and firmly. An experienced mesmeriser is advised to be on his own guard, for sometimes he himself succumbs under the operation; a most sage advice, and one which tends to prove our former statement, that the act of staring *per se* can, to a greater or less extent, account for the symptoms. What experienced person that reflects upon the means capable of exciting human feelings, sensibilities, and emotions, will be surprised that such close and varied approximation to a man of powerful and, it may be, fascinating configuration and face, combined with the fatigue and disturbance of the vision and brain by a quarter or half-an-hour's staring at him, should produce torpor, sleepiness, exhaustion, or nervous excitement, upon a delicate or sensitive individual? In the bustle and whirl of our social but artificial state of society, disturbances of the nervous system are by no means unfrequent, or inferior in quality or intensity to those of mesmeric generation, being produced by causes equally powerful and somewhat analogous. In this production of sleep, directions are also given to make gentle passes from the head to the neck and chest, carefully remembering not to speak to the patient. What sensible person would keep speaking to an individual he wanted to lure into the arms of Morpheus? "Involuntary laughter, yawning, deep sighs, a sense of oppression or constriction in the chest, of

choking in the throat, convulsive twitching of the extremities, and sometimes a tendency to retching and feeling of sickness," are said to be some of the signs that the patient is affected by the influences. Who would fail to recognise hysterical symptoms here? When these methods fail, other means are recommended, such as placing one hand on the patient's head, and pointing with the fingers of the other to the eyes of the patient, making him stare at your finger-ends, observing absolute silence, or by staring at the reflection of the mesmeriser's eyes in a looking-glass, and making passes down the spine. When the process is still more difficult, you are wisely directed to leave the patient in bed, in a darkened room, with curtains drawn, &c. and that you will return in a short time. Reckless ingenuity could scarcely devise a plan more likely to produce fatigue, exhaustion, and unsettled sleep. One of the mesmeric axioms is, that the vital emanations can be most readily discharged from certain portions of the body, viz. the inner surface of the hands, but particularly the eyes; but they even go a step farther, and assert that the very *will* of the operator can send a discharge through the body of his patient, and make him believe that black is white, and that water and wine are the same drinks. That the eyes discharge any peculiar amount or intensity of emanation, or that they discharge anything whatever, as has already been shown, is disproved by the fact that the same phenomena are produced by the patient's staring at inanimate objects; but the startling proposition that the faculty of mind called the *will* can produce every kind of mesmeric phenomena, and make the patient believe in impossibilities, demands a less brief examination. The human will has, no doubt, a very powerful effect on its possessor as well as on other men, but only when expressed or understood. If the mesmerist infer from this power that he can discharge, at his option, a stream of vital emanations upon the devoted head of his patient, then is it equally clear that any other object that can produce the same effects must be possessed of the same properties; but this would be inferring an impossibility, for a letter that has travelled a thousand miles may convey injunctions as binding on the receiver as if the writer of it had been personally present. This peculiar department of mesmerism—or sub-mesmerism, as the *pures* name it—has recently come into vogue, under the designation of *electro-biology* or *suggestion*. The phenomena are of the same kind, although produced by staring on two pieces of metal, as those caused by ordinary mesmerism; but the performers have been able, by tact and adroitness, to give their exhibitions somewhat of a scientific dress, and to perform their experiments with considerable skill. The biologist asserts that the will of the person operated upon is entirely subjected to that of the operator, and this to an ordinary spectator might appear to be the case, but it can be explained more satisfactorily by appealing to the physiological laws of the animal economy. Dr. W. B. Carpenter, in an able lecture in the Royal Institution, has explained the whole matter very clearly. He says that "all the phenomena of the biologised,

when attentively examined, will be found to consist in the occupation of the mind by the *ideas* which have been suggested to it, and in the influence which these ideas exert upon the actions of the body. Thus, the operator asserts that the 'subject' cannot rise from his chair, or open his eyes, or continue to hold a stick; and the 'subject' thereby becomes so completely possessed with the fixed belief of the impossibility of the act, that he is incapacitated from executing it, not because his will is controlled by that of another, but because his will is in abeyance, and his muscles are entirely under the guidance of his ideas. So, again, when he is made to drink a glass of water, and is assured that it is coffee or wine or milk—that assurance, delivered in a decided tone, makes a stronger impression on his mind than that which he receives through his taste, smell, or sight; and not being able to judge and compare, he yields himself up to the 'dominant idea'—the same with what has been designated as 'control' over the memory. * * * Now almost every one of these peculiar phenomena has its parallel, in states of mind whose existence is universally admitted. Thus, the complete subjection of the muscular power to the 'dominant idea,' is precisely what is experienced in *nightmare*; in which we are prevented from moving so much as a finger, notwithstanding a strong desire to do so, by the conviction that the least movement is impossible. This misinterpretation of sensory impressions is constantly seen in persons who are subject to *absence of mind*, who make the most absurd mistakes as to what they see or hear, taste or feel, in consequence of the pre-occupation of the mind by some train of thought which renders them unable rightly to appreciate the objects around them.* He explains it physiologically upon the reflex action of the brain, or *ideo-motor* principle, which gains the ascendancy when the will is in abeyance.

Before concluding this part of the subject, we must advert for a moment to the demesmerising or awakening processes, which are presumed to be hidden from all mortal eyes but those of the initiated. They consist of telling the patient of your intention, drawing the thumbs across the eyelids or eyebrows in an outward direction, making transverse passes, blowing on the eyelids, and fanning the patient. If it be very difficult to awaken him, his hands should be put into cold water, and his person exposed to the cool air at an open window. Blowing hot and cold on the patient, and the knob of a poker are recommended for the removal of the spasmodic constriction of the muscles of the eye. Verily, the devices here employed are sufficiently various, and most of them partake of Esculapian orthodoxy; but the "blowing hot and cold" being so original and so suggestive of special character, we are bound to infer that some magnate of this ethereal science made the discovery in a trance of clairvoyant inspiration.

* *Athenæum*, May 15th, 1852.

PHRENO-MESMERISM.

When a person is brought into a *susceptible state* by the mesmeric processes, it is asserted that by pointing or touching any particular part of the head, the portion of brain underneath is roused into action, and the subject gives forth a manifestation of the corresponding mental or cerebral function. Thus, if we excite Philo-progenitiveness, the person immediately thinks, dreams, or speaks of children, and may fondle a sofa or a pillow; excite Veneration, he prays; Tune, he sings; Combativeness, he quarrels or fights, and so on with the other organs. It is not asserted, however, that the process is successful with all the organs; as in some persons a few only respond, arising, it is thought, from a peculiar cerebral organisation. It is also believed that, in some nervous or sensitive persons, the organs can be excited without the influence of mesmerisation. These effects are considered conclusive proofs of the truth of Phrenology; and the mesmerist, no doubt, believes that the proof is reflected back on his own science, as might be expected in matters so naturally allied. That phrenology is not altogether a baseless belief, may be readily allowed; but that it is entitled to be denominated an inductive or demonstrative science, cannot, in its present amount of advancement, be admitted or fairly demanded; for there are so many exceptions and discrepancies in the facts, so many divisions of the intellectual, moral, and instinctive faculties, some being simply modifications of others, such minute configuration of the cranioscopical regions, when, from the irregularities of the cranium, it is physically impossible to ascertain the actual development of the brain without an inspection, that it seems impossible to avoid the conclusion that the data are greatly deficient both in amount and quality. It is no doubt true, and has been demonstrated, that the brain, as a whole, like the eye and the ear, has not one entire and simple function, and that various parts of it perform very different offices. It may also be farther granted, that there is almost incontestible evidence for believing that the intellectual functions are developed through the anterior lobes of the brain; and that hence a well-formed forehead is generally a measure of capacity, with perhaps a few developments connected with the qualities of Cautiousness, Firmness, Veneration, &c.; but evidence such as this cannot fairly be considered tantamount to the establishment of a science based on inductive philosophy. We are aware that the phrenologists will assert that the most complete proof has been furnished for all the organs, indicated in their cranial divisions; but, as it is not our province to enter the lists with them on this subject, we will simply appeal to the opinions of almost all the great physiologists of the present day, that phrenology is still a subject *sub judice*; and hence that no conclusion can be drawn by

the mesmerists from the assumption of its truth. It is even admitted by writers on mesmerism, that few people are so accurately acquainted with phrenology as to enable them to touch the precise organ intended for manipulation; and also that the same manifestations can be called out by touching other parts of the body, such as the trunk, leg, or arm, especially if combined with a powerful will on the part of the operator. It is obviously a fair inference from this, that many such successful exhibitions may be explained upon their own principle—"suggestion," or that the idea was suggested to the mesmerised person. But we will give the argument a fair trial on its merits, and will even grant them the assumption that the phrenological developments are situated as they represent them. Now, what analogy have they to guide them in this demonstration? Can we excite to greater activity the eye, the ear, the nasal sense, or the touch, by pointing or gazing at these organs, with all their coverings *in situ*? Every one knows that we cannot influence them specially in this manner. We cannot excite the sciatic nerve, or *par vagum*, by simply touching or handling the skin along their course, or even act upon them individually by a galvanic current; but if they are laid bare by dissection, the same agent, as well as mechanical irritation, will produce remarkable results, if applied to them in this insulated state. If the mesmerists had deprived the brain of its cutaneous and osseous coverings, and had then experimented, science might have taken the performances within the pale of their protection, as based on something like common sense; but the obstacle of a dense and impenetrable bone appears to them no barrier to the entrance of this subtle agent, and its special centralization in the spot selected,—in defiance of all analogy from electricity, which does not act physiologically on special organs, when transmitted through any part of the cranium, and of all the recognised methods of experimenting on the brain and nervous system, or influencing these organs abnormally in any especial manner. The repeated failures and blunders also which are committed by many persons who are not, and possibly cannot be, accurate in their localization of the organs, must necessarily render the evidence in this department totally unworthy of confidence. Indeed, the *prima facie* conclusions which occur to the majority of non-believers, viz. that there is some trickery or collusion in the exhibition of successful cases, must either to a certain extent be true, or the "suggestion" of the mesmeriser must have been so skilfully applied as to produce an apparent correspondence between the manipulation of the head and the mental manifestation. Besides, if such were the impressible conditions of human heads, the mental manifestations either of pain or pleasure of all those subjected to accidental manipulations, would become a series of lamentable contradictions; consisting of jarring notes from all the keys of human sympathy and feeling. A nurse, for instance, might be scrubbing a child's head, and might observe the necessity for energetic manipulation on the organs of Destructiveness and Combativeness. This, no doubt,

would arouse the combative and destructive propensities of the thriving boy, and he might bawl, and sputter, and box most manfully; but why be alarmed? you can calm this in an instant, by transferring the sanitary operations to the organs of Benevolence and Veneration,—and the beautiful darling caresses, and looks up with penitential reverence into the face of the merciless operator! O ye tender mothers! your duty is a very responsible one; for if, perchance, by a few accidental endearments ye throw the mesmeric stream from the tips of your delicate fingers or beautiful eyes into the bosoms of your beloved offspring, and then in a trance of delight bring your snow-white hand over the organs of Secretiveness, Acquisitiveness, and Destructiveness, you will find that you have been robbed most skilfully of all your gay ornaments, while some of your magnificent curls are being torn from your graceful head! O ye that teach the young idea how to shoot, ye have much yourselves to learn! Why do you not manipulate, with your learned fingers, the moral and intellectual regions of the cranium, in place of smiting the culprit with taws and tongue? O ye slave-drivers, why do ye lash your victims so unmercifully, and fill the cup of human misery to the very brim, when by the touch of a finger or the gaze of your sinister eye, you can convert a thief during your pleasure into an honest man; he that is indolent, into the man of action; and he that is combative, into habits of docile benevolence? That these are not chimeras of the author's brain, but fair deductions or inferences from a text, we quote the following from a writer of distinguished name:—"When the operator is himself, as often happens, as ignorant of phrenology as the patient, he is surprised and confounded at the results; because when touching a part he knew not its function, and therefore had no volition on the matter at all. Yet here also, as I have seen, the manifestation will often come out as well as before. Nay, the pressure of a chair or the wall on a part of the head, will sometimes, when quite accidental, as well as the accidental touch of a hand or arm, whether of the operator or not, produce the same effects."*

CLAIRVOYANCE, &c.

This, it is said, belongs to the higher phenomena of mesmerism, and the name would unquestionably be appropriate if the professed powers were found to be true. It is believed that, by this developed faculty, clairvoyants can tell what is taking place in houses at the distance of an indefinite number of miles, describe the individuals, their occupations at a particular hour, and, in fact, tell you what a person would see if he made a personal inspection of the house. They also make pretensions to see into the interior of patients, and to describe the pathological changes which disease has occasioned, and prescribe the appropriate remedy.

* Dr. Gregory's Letters on Animal Magnetism, pages 235-6.

But this is not the limit of their powers; the past can be revealed, and future events foretold. These are certainly astounding statements, to use one of their own phrases, and would even be startling facts were they established. Mesmeric writers assert that the proofs are indubitable, and rest upon the statements of persons whose veracity is unquestionable, being facts which cannot be explained, but which, in this respect, are on a par with our knowledge of gravitation, or the principle on which the eye is the organ of sight, and the ear that of hearing. But though we know comparatively little of the *modus operandi* of the powers, qualities, or properties referred to, we know that their laws are as established as those of matter itself, and have been proved by evidence of a different kind from that which is brought to bear on the mesmeric phenomena. Now, it is admitted by themselves, that the sayings of clairvoyants can seldom be ascertained by a large company, as they are often issued in a low voice; and it must also be granted, that the belief of such extraordinary and apparently supernatural powers, ought to be substantiated by evidence of the most stringent, extensive, and conclusive kind. If a man assert that he witnessed an occurrence of an ordinary kind, there being no motive for falsification, he is at once believed, simply because he relates nothing wonderful and can have in the case no inducement for misrepresentation, and cross-questioning is here little necessary. Again, if a man state that he witnessed an occurrence in which assault or murder was the result, this requires the most minute investigation by neutral persons who are competent to examine the witnesses brought forward, to cross-examine and sift the evidence, and endeavour to discover if there be any motive but truth in the statements, and if there could be no deception either in the observation or affirmations of the persons examined. There is also another class of cases where the evidence requires to be investigated with particular scrupulosity, not on account of the dishonesty of the individuals, but simply because they are nearly the reverse of this, viz. honest enthusiasts. A certain proportion of the human race are very unsound thinkers, or are not gifted with much common sense; now, these are the individuals most liable to be deceived by erotehety and plausible opinions and doctrines, and the intensity of their belief is often exactly in proportion to the blindness of their understandings. Such men generally give very inaccurate reports of what they have seen, for their preconceived opinions and fancies, or to use a mesmeric phrase, their own "suggestions" are so predominant, that an answer or a description that is vague, in every quality, will be interpreted into language of the most conclusive kind. That this opinion is correct, we appeal to the notorious fact, that accidents and occurrences of a striking kind are rarely reported correctly, not generally from dishonest intentions, but simply because there is a feeling of great magnitude in the mind which generates exaggeration in the narrative. The opinions of a medical man respecting the state of his patient are also often incorrectly reported. Thus, sup-

pose him to say that he is rather better, his symptoms are more favourable, his chances are improved; the relation who was impressed with the idea of his recovery might interpret these as representing that there is no danger, that he has got the turn, or that the disease is now not dangerous. The same misconceptions happen with the observation of other phenomena. If a man full of the belief of ghosts and hobgoblins be walking in a lonely road or passing a church-yard, a white object, or a bush waving with the wind and invested with a mantle of blossoms, will, very readily, furnish all the imagery to his affrighted imagination; or if he were a believer in the prophetic delineations of the firmament, he might behold portentous armies, combats, and defeats in the corruscations of the aurora borealis. 1st, It is hence quite obvious that statements made by fanatic or enthusiastic believers of any new doctrine, if the presumed facts in question be preternatural or contrary to all former experience, should be investigated by evidence and cross-questioning of the most searching and indisputable kind, by neutral persons who have neither prepossessions nor prejudices regarding the matter. 2d, Statements that imply impossibilities cannot be established by evidence of any kind, as it is more philosophical to suppose that the witnesses were themselves deceived, or were in collusion with one another, than that the laws of nature should be reversed, except in the case of miracles. In general, it may be asserted that the evidence for the higher mesmeric phenomena has been derived from the mesmeric performers themselves, or their partisans; and that though the public and a French Commission have occasionally given something like favourable testimony regarding some points, yet that this would be found somewhat fractional in its amount. If a certain proportion of individuals, not large in number, of stern integrity, accurate observation, and scientific acquirements, who had no leaning to the doctrine nor prejudice against it, were employed as a committee to investigate the phenomena of clairvoyance—this would be the sort of evidence that might be depended on; but this has never been done, or at least never done with the perseverance, precautions, and accuracy that are necessary in the circumstances. The credibility of the evidence is also much weakened, if answers be the result of leading or “suggestive” questions, from which the sagacity or shrewd guessing of the clairvoyant may form an approximately accurate idea of times, places, and circumstances, more particularly if these answers, like the responses of the celebrated Oracle of Delphi, receive a liberal interpretation or translation. That this is regularly done we do not assert, but that it has often been done there can be no question whatever. We are also fairly entitled to conclude, that trickery and collusion have been frequently made to bear upon the subject; although, readily admitting, that there are a numerous class of mesmerists who are incapable of this; yet all history, from the most remote period to the present day, proves that whatever is wonderful in dramatic or other similar exhibition, has, with remarkable frequency, been employed

by clever knaves as a basis for a still more astonishing or extravagant imposture, either from the love of money, or the gratification of a very absurd vanity. Besides, if this were a faculty of the human mind, capable of development by certain manipulations, its existence to a greater or less extent, according to all analogy, could not be so rare as it is represented to be; for even the faculties of poetry and painting are by no means uncommon, if we take in the whole range, from their lowest to their highest development. Again, the uncertainty of the whole of these performances is so great, that none can determine the time or period of lucidity; their failures and blunders have been so many, as to imply the employment of plausible or probable conjectures; and their chariness and caution in always having their own special friends around them, give the whole subject, to say the least of it, a complexion either of a most fanatic or very untruthful kind. But we can meet them on another ground, viz. that some of their pretended performances are contrary to all the known laws of the creation.

In order, however, that we may not be supposed to attribute to mesmeric believers and authors what they do not maintain, we quote the following passage:—"The possession of a power by some sleep-wakers of foreseeing and predicting the future may be accepted as a well-ascertained and established truth. We can receive the truth without being able to account for it, just as we are in the habit of receiving the truth of various natural phenomena without being able to explain them."* In this enunciation the writer has forgot that his assertion only refers to an admitted truth by mesmeric believers, but by no others; whereas the truths or facts of the natural phenomena, as of science, are admitted by all the educated portion of the human race; he is therefore very illogical in this *ad captandum* comparison. But we farther maintain, that having given forth a theory of the mesmeric agency, he is bound to show that this agent is capable of effecting what he states to be a truth, viz. the prediction of events which are not in existence and cannot even be in embryo at the time. He is therefore under a fair challenge to prove, that the mesmeric emanations can possibly take cognisance of that which has no existence, or, in other words, operate upon a nonentity. The absurdity of this is too palpable to require farther illustration. But it is also said that the prevision of the clairvoyant can even extend from this country across the Atlantic, and that a letter may be read in Britain that is actually in the process of construction in America. That, certainly, is an influence of a most transcendental kind; and we have no parallel to this, either in electricity, magnetism, light, heat, or any other subtle agent of nature, as it implies that the physical frame of man, a body of infinitesimal magnitude comparatively to other masses of matter, can project its influence over thousands of miles with the rapidity of thought. Light, heat, sound, and electricity, can be transmitted to great distances with

amazing rapidity; but then, if the distance be great, it is well known that such indications from small masses of matter are not discoverable or traceable in any shape. The higher powers of mesmerism being unlimited as to space and time, are considered equally omnipotent in giving translucency to the opacities of matter. This extraordinary development of vision, it is affirmed, can enable the mesmerised person to see through stone walls, and discover objects in closed boxes and darkened chambers, and also peep into the interior of the human body, and make bare and palpable the pathology or diseased condition of the head, chest, and abdomen. If such faculties exist, their movements must also be admitted to depend upon the so-called mesmeric emanations. A stone wall is a stubborn difficulty in its resistance to many agents, and cannot be overcome by the rays of light, and even electricity must often dash it in pieces to make an entrance. It seems, however, to be a very harmless obstacle to the admission of the mesmeric rays; and wood, skin, muscle, and bone seem also transparent when acted on by this most potent influence. The proofs for such unprecedented assertions would require to be numerous, constant, and regular, as they are required for the demonstration of something that is contrary to all law and all experience. And what do they consist of? A few isolated and successful cases (the failures being rarely mentioned) skilfully related and sometimes partially concocted. The instances of intro-vision and medical instinct are miserable failures; the descriptions of internal disorganisation being clumsy and vulgar attempts at pathological accuracy, evidently from the "suggestions" of a mesmeriser, or the crude and inaccurate guesses and notions of one who has got a smattering of knowledge, and who might conjecture the existence of a disease from the appearance, conversation, or respiration, &c. of a patient. We quote an example of this trash. The mesmeriser requested a clairvoyant to say how a person looked, and she stated that she could see him both outside and inside, and moreover said, "You are like a pig or a sheep at the butcher something, only your heart keeps moving and your lights swelling." On another occasion, she was requested to look at the heart of a gentleman and compare it with that of the mesmeriser; the answer was, that "They both seemed nearly alike; his is rather paler at the bottom part, but it opens and shuts much faster than yours."* Now this gentleman's heart was palpitating rapidly at the moment, and her prognostication (being accustomed to this) was not by any means wonderful. More extended details on this subject are found in the *Zoist*; but they consist chiefly of vulgar allusions and descriptions, with an attempt to imitate the modern medical phrases, with all the characteristics of an imperfect comprehension of the disease and the state of the internal organs, but dished up, to a certain extent, to suit the modern pathology.

Such are some of the extraordinary powers attributed to mesmerism; and it seems unnecessary to allude to any other, such as transposition of

* Barth's Manual, p. 56.

the senses, where the person under its influence can see, hear, and taste at the pit of the stomach, elbows, or fingers; transfer of sense and thought, where the mesmerised has no consciousness of his own, but only through his mesmeriser—that is, if you pinch himself he does not feel it, but only when you thus act on the mesmeriser, &c.; mesmeric attraction, by which the mesmerised clings closely to the mesmeriser;—as, we trust, the major propositions having been found baseless, these others must consequently share the same fate, as being equally incompatible with all our knowledge of the laws of the human frame. There are three points, however, which, being special with regard to their assumed importance or absurdity, we feel called upon to notice. 1. That an intoxicated person, or one impregnated with the fumes of strong drink, should not mesmerise any individual, at least on the organ of Alimentiveness, as it may be followed by evil consequences, such as a propensity in the mesmerised person to the use of the same evil potations. This implies a very marvellous power and a very extraordinary combination of the magnetic emanations with alcoholic atoms, even on their own reasoning; in fact, something like a chemical union of the two, for they produce somewhat of a simple action on the region alluded to; and who ever heard of the possibility of projecting alcoholic vapours into a person from the points of the fingers? We cannot combine alcohol with electricity, light, &c.; and if impossible with such agents, why should we believe it to exist in mesmerism, upon evidence of the most questionable kind, and from facts which can readily be explained by ordinary reasons. 2. It is asserted that “inanimate substances” can be mesmerised—that is, impregnated with the mesmeric principle—and effected by means similar to those already referred to. In this way a mesmerised handkerchief placed on the head will produce sleep; or the seat of a chair, water, or bread and butter that have been subjected to this process. It is necessary, however, if you wish the patient to see a black cat, or to mistake water for epsom salts, that the mesmeriser have a strong image or “will” of this in his own mind. It must also be noticed that after this operation water acts as an aperient. It is also stated that mesmerised water can be readily discriminated, by sleep-wakers, from common water. Now, what analogy have the mesmerists to found this chimera upon? If you pass electricity or light into water, what discoverable change is observed in its qualities by such agencies, if the action of the first be not carried the length of decomposition? Besides, it is admitted that the imagination of the individual who simply believes he is sitting in a mesmerised chair, is very apt to produce a sleepy propensity. It is also not very difficult to conceive how some individuals may distinguish mesmerised water. If the mesmerisation be effected by breathing, or by its impregnation with human effluvia—which operation is sometimes practised—the sense of smell, if acute, may detect this; and we have a corroborative proof, from the defenders of the doctrine, that this is possible. Some mesmerised water being requested by a gentleman, a lady

made it undergo this process, and it is stated that "the water had a very strong flavour of brimstone afterwards, so much so that he could scarcely drink it. On naming it, he discovered that the lady at this time was taking daily doses of brimstone and treacle."* This is a convenient process, and contains a very advantageous principle, but *verbum sat sapienti*. Indications of a similar kind, and other physical marks, such as the handling or touching of the glass, might lead to very probable conjectures, which may account satisfactorily for the limited number of successful experiments; and it must also be admitted that where there is a limited number of glasses, there is always one chance of being right. 3. The mesmerisation of the lower animals is also brought to bear upon the question, since the furious bull and famished wolf can be cowed into submission by its means. Imagination, it is asserted, can here have no influence, and therefore it is inferred that some mesmeric radiations must of necessity pass from the one into the other. This is a fallacy, for though they do not possess the mental peculiarities of man, they can be influenced by fear, terror, and kindness. If a snake paralyse or fascinate a quadruped, this obviously arises from an instinctive terror of the fatal power of the former; if a horse start and shake at the sight of some unusual inanimate object on the road, this is also from terror, for no mesmeric agency can there be developed. Why is a bull excited to fury by the sight of a piece of scarlet cloth? or why does a cat revel and riot among the roots of valerian? The exciting colour of the one, and the odour of the other, may explain the phenomena. And why then is a furious quadruped sometimes brought into submission by a man of stern appearance and physiognomy, who stares and points and looks resolved? Simply because the animal believes the combatant to be somewhat formidable.

CURE OF DISEASES BY MESMERISM:

In noticing this department, it is necessary to advert to two points:—

1. The cure of diseases by mesmeric processes and mesmerised substances.
2. The relief of pain during surgical operations, and generally in other cases by the induction of the mesmeric sleep. It is not generally asserted by mesmeric writers that mesmerism cures all diseases; for this, it is said, cannot be one of its properties, since clairvoyants sometimes prescribe other remedies, this being considered an infallible index of medical certainty. Its powers, however, range over a numerous and formidable list of human maladies; such as epilepsy, chorea, spasms, convulsions, hysteria, insanity, scrofula, phthisis, disease of mesenteric glands, chlorosis, cancerous diseases, paralysis, amaurosis, lead cholic, asphyxia, gout, rheumatism, sciatica, polypus, fistula, &c. &c. Now, upon what evidence do they assert the curative influence of mesmerism on these diseases, and its superiority

* Barth's Manual.

to the ordinary methods of medical practitioners? They appeal to the fact, and to the impossibility of curing many of them by other means. But it is not contended by the mesmerist that one sitting or even two will effect the cure; nay, it appears from their own evidence that a long course of treatment is required, and that weeks and months elapse before this is effected. There is nothing whatever new or extraordinary in such a result, for the same thing is asserted by homœopaths, hydropaths, and advertising quacks; nay, medical authors and practitioners claim to themselves legitimately the very same powers. And what is the evidence on which they all found their conclusions? Simply the fact that manipulations, globules, cold water, or medicine of some kind, preceded the cure by a few days, weeks, or months! Let us then examine their claims to superiority in this matter; but as it would be impossible to analyse many of their cases, we must confine our remarks to one or two of the principal maladies, as contained in Dr. Spillan's work, or the Zoist. A case of paralysis is related, where a shoemaker had been paralysed for two years in the fore-arms. No precise particulars are given, but it is stated that the disease was occasioned by cholics and obstruction in the liver, &c. He was subjected to the mesmeric treatment on the 28th July, and cured on 23d September. It evidently appeared to be a malady not dependent on organic disease of the brain or spine, but proceeding from derangement of the biliary and other organs, and therefore less likely to be permanent. This is by no means a recovery in any respect unusual or extraordinary. We saw a person a few months ago, in the capacity of a pedlar, strong and healthy, and able to travel many miles in a day and be exposed to all kinds of weather, who, ten years ago, in a public hospital was affected with paralysis of the lower extremities and bladder, and who had no power whatever and almost no sensation in the lower part of his body, and who could not move in bed without assistance. In the course of two months, he was so far recovered as to use his limbs partially, and in a short time could walk with considerable steadiness and power. About a month ago we met with another case, where the amendment was very rapid. An elderly married female, while engaged in some manual operations on the floor, was suddenly seized with paralysis of the right side, and she could scarcely move the corresponding arm or leg, while the sensation of the limbs was extremely limited. In a fortnight she was moving about the house, and in a month from the seizure very little of the disease remained, except a little numbness or diminished sensation. These cases are not brought forward as in any respect remarkable; for every experienced practitioner could produce analogous instances, treated according to the usual scientific methods, without thinking it necessary to vaunt much about the matter. Epilepsy, also, is a disease over which mesmerism is said to exercise great power, and several cures are related when after a time the patients recovered. If the successful cases of the regular practitioner were brought forward in the same selected manner, their superiority, we are per-

suaded, would be apparent, even admitting the mesmeric statements to be perfectly authentic. This disease is known to be exceedingly intractable, though not incurable; for in a certain proportion of cases the patient's chance of recovery is increased by a particular mode of treatment; but recoveries take place under every variety of treatment, and frequently without any that can be designated by that name. Indeed the herbalists, with their decoctions of bitter or inactive herbs, are frequently the divinities invoked by epileptics in the lower walks of life. Rheumatism and neuralgia are also considered specially under the curative domain of mesmerism; but the peculiar, periodic, and capricious terminations of these diseases are so well known, that coincidences are by no means rare or remarkable under all modes of treatment; and no special conclusion as to the value of any particular remedy can be drawn from a few selected, indefinitely described, and comparatively limited number of cases, which are accompanied with few details, either of the progress of the malady or its treatment. We might particularise, in the same way, all the different diseases which are stated to be curable by mesmerism; but as nearly the whole of them belong to that class which we have already shown to be comparatively little under the power of treatment; and that similar recoveries, to a greater or less extent, take place under every variety of remedy, and often without any that is worthy of special name; and that, in such affections, our chief efforts should be directed to the preservation of all the functions in due activity, and to support the strength rather than place reliance on any specific or empirical mode of treatment, or on one deduced from observations limited in number, irregular in comparison, false in diagnosis, or dishonest in the selection of cases. If, then, it be admitted (and we hope few enlightened and experienced medical men will seriously question the proposition) that there are a certain proportion of human maladies—being very frequently those quoted by mesmeric writers—over which medicine has comparatively little control, and in the cure of which the mesmerist, the homœopath, the hydropath, and the advertising quack all lodge their claims of greater or less infallibility; it is manifest that neither the one nor the other have any influence or power over the disease, for the results are claimed, 1st, by the action of a nonentity, viz. mesmerism; 2d, by what is equivalent to a nonentity in practical medicine, the decillionth part of a grain of any known substance, as in homœopathy; 3d, cold water, that has been applied to the body internally and externally from time immemorial; 4th, the Balm of Gilead, or the *Revalenta Arabica*—the one consisting chiefly of ardent spirits, the other a farinaceous substance similar to the pea, if not generally that very article. No man of sense, who is acquainted with the agencies usually in operation in this globe, could possibly draw the conclusion that all these were influential in producing a uniform result; but, when coupled with the fact that these diseases do, in a certain proportion of cases, terminate favourably without the influence of any of them, the conclusion is inevi-

table, that these were not causes but concomitants of the amendment. Indeed so clear is this, in respect of the special diseases above referred to, that we might found upon the mathematical axiom, that "things that are equal to the same are equal to one another"—a most destructive demonstration, viz. the following; mesmerism, homœopathy, hydropathy, and arrant quackery all pretend the same or similar successful results; mesmerism, as one of them, produces this result; but mesmerism is a non-entity, therefore the others being equal to it, are also nonentities or inoperative, in as far as remedial agency is concerned. But as we have other means, we do not intend to intrench ourselves behind the bulwarks of pure mathematics; for our shadowy and infinitesimal adversaries might possibly fail to appreciate the weight of such potent matter, and besides it might not be considered perfectly relevant in the present state of practical medicine. But there is a law, not strictly under this range, which bears most pointedly on the question (that of Huygens, we believe), viz. that the probability of any event happening or not happening might be expressed by the ratio of the number of chances for its happening or not happening, as the case may be, to the total number of the chances for its happening and not happening. Thus suppose (for we want statistics on this point) that in epilepsy there were twenty spontaneous cures out of every hundred cases, the chances would be that one in every five treated might be claimed unjustly by mesmerism; and if in insanity the proportion were twenty-five per cent. then one in every four would be dragged *per nefas* at the chariot-wheels of the conqueror. But the mesmerist may possibly claim universal subjection, like Alexander the Great, and may boast that the whole race of demoniacs, of every hue, have been subdued into placid obedience. How is this inglorious warfare accomplished? Their successful cases are carried in triumph before the public, while their failures may possibly be concealed in some quiet corner of their repositories. It is not to be supposed, however, that we question the veracity or belief of the honest men who make such statements; and there are individuals, we know, among the supporters of mesmerism who are incapable of misrepresentation; but fallacies in medicine have, it is notorious, arisen in all ages from this source, and it would be unphilosophical to conclude that mesmerists are altogether more pure in their generation than the rest of their brotherhood. Nay, we go further, and predicate the probability of there being a larger number of exaggerating men among them; simply because the inducements for trick and wonder-working are greater than in the ordinary practice of medicine. We will not, however, venture further into this field, which is no doubt somewhat speculative; for as the fraternity consider their science based upon the immutable laws of the universe, and that they are opposed because their doctrine is new, and for the same reason that the theory of the heavens and the laws of gravitation were at first scouted as chimeras—though it is unfortunate for the argument that false theories as frequently share the same

fate—it would be wrong to trespass too far on their double-refined sensibilities. But we may surely venture to assert that they are not infallible in their diagnosis of diseases, as this is agreeable to our knowledge of mankind generally; and that it is possible they have in some cases mistaken bronchitis for consumption, or a chronic inflammation or organic enlargement for a cancerous tumour. This may, perhaps, be treated as an assertion without proof, and the non-professional enthusiast may deride it as an innuendo of an unjust and malevolent description; for how is it possible that the distinguished Dr. E. could be mistaken in any case of this kind? Such things have happened, however, with celebrated men as well as with others, more particularly if their minds were previously imbued with preconceived and baseless theories. But we can go farther with our averments, and affirm it as an opinion of the most experienced, that cases do occasionally occur where the greatest tact and skill cannot solve satisfactorily the difficulty. But we rest not our argument exclusively on this, since we can demonstrate, by other means, its complete tenability. It is admitted by all sensible writers, nay it is known and believed by all the intelligent portion of the public, that *true* cancer is absolutely incurable by medicine, or spontaneously and problematically so by operation; the chances, therefore, of this happening are none, but the chances of a medical man's opinion, in any individual case or number of cases, being mistaken are a certain number of the whole; it therefore clearly follows that it is more philosophical or consistent with fact to suppose a diagnostic mistake, than that the laws of the disease, known for centuries, should have been overcome. The mesmerist, however, being expert in logical scholastics, may answer that the cure is within the range of medical discovery, and that the agency which they have brought forward and applied can accomplish what was heretofore impossible; but this said agency being, as has been proved, a nonentity, no change whatever could be produced by it; it still therefore follows, that the cure was spontaneous and the disease not cancer. Having thus endeavoured to show that mesmerism as a *distinct agency* has no existence, and that it has no special or specific power in the cure of diseases, it is now our duty to show how it may influence the human frame. We have already tacitly admitted that sleep, sleep-waking, rigidity, nervous symptoms—excitement of the pulse, the imagination, the feelings and emotions, may be produced by the peculiar processes of the mesmerist; and no one acquainted with the functions of the human frame, will deny that such effects may be influential for good or evil; and we venture to assert that any of the few applications of the so-called science can be much better effected by means well known to the whole medical profession, and with much less trouble, risk, and indelicacy. These are simply sleep and insensibility to pain; for we can scarcely include, in this meagre catalogue, the rare possibility that a morbid habit in some of the diseases peculiar to the nervous system may be influenced favourably by mesmeric means, in the

same way as they are sometimes known to be by the exciting passions and emotions of the mind, and by the exhilaration and new elasticity of feelings engendered, in an invalid, by the hope of recovery; for this can be generated, to a similar extent, by almost every empiric or pretender to extraordinary power. Suppose, then, that mesmerism was substituted for any of the usual means employed by medical men for procuring sleep, in certain diseases, where such effect was considered extremely desirable, either in promoting the recovery or relief of the patient, how would the result fulfil our expectations? The chances would be mightily opposed to every sanguine anticipation; for, after all the staring, thumbing, pointing, and passing processes had been, in fatiguing succession, employed, probably not more than one in four or five, or even a much less proportion, would be found susceptible subjects; whereas the failures with medical prescriptions, when properly proportioned and recommended, are exceptions to the general rule of success. But it is argued that medical prescriptions cause disagreeable derangements of the functions after their employment, such as constipation, headach, &c. These, no doubt, sometimes occur, but by no means uniformly; but is it possible to conceive that no evil consequences can result from the species of sleep induced by mesmerism, which is described as follows:—"The eyelids are closed, the eye is either convulsed upwards in its orbit, or directed straight in front; sometimes, but more rarely, the eye is in frequent motion."* The pupil is also described to resemble that of a person just deceased, "in the profoundly deep unconscious sleep." No man acquainted with the delicate machinery of the human body would assert that insensibility like this, accompanied with convulsive movements of the eye, would cause no evil consequences; and although these results may not be fatal, they may be far more prejudicial than those they are intended to supersede. But a step beyond its immediate application to cases of disease, has been brought forward. The mesmeric sleep and other effects being admitted to be by no means uniform results in those who have not previously been put under its influence, it has been recommended that the process should be begun in children or early in life, in order that all may be readily subjected should disease or any necessity require it. Verily this is a grave proposal, in the nineteenth century, from a celebrated Professor of a most distinguished University, who has sworn to be faithful to his *alma mater*; when it is universally known that the influence of one person upon another, resulting from the refined and social habits of the population, offer already too many incentives to wickedness, and where the ultimate end to be attained is vague and illusory. But the mesmerists also boast mightily of their art of inducing unconsciousness during surgical operations. It is well known that this can be done; or that more or less insensibility to pain can be produced by various means. If a deeply intoxicated man, for instance, receive a compound fracture of the lower extremity, he may be found tossing it

* Barth's Manual, 2d Ed. p. 31.

in bed as if it were a piece of gutta percha, and if his leg be amputated in this state, his feelings of pain are blunted to a very great extent; and probably when the alcoholic fumes are dissipated, he will remember very little about the matter, and the pain he suffered from the accident and operation may be almost totally effaced from his memory. That some such result may happen during the mesmeric sleep is highly probable, and may be readily admitted; but it does not follow that it is preferable, or even so good as those means at present employed by the medical profession; and though the advocates of anæsthetic agents may congratulate themselves upon the extraordinary boon which they have placed at the disposal of suffering humanity, we question exceedingly the probability that any of them will ever go down to posterity as one of the very great discoveries in medical science; more particularly as fatal results, in certain morbid constitutions, seem to adhere to their employment most persistently. Although we hold this opinion, and also believe that the indiscriminate use of chloroform in all kinds of surgical operations, and in ordinary cases of midwifery, will ere long be abandoned, we most readily admit its value in many cases, such as great surgical operations, where the pain suffered by the patient is severe and protracted, and his consequent agitation might derange the accuracy of the operator's instrument; in difficult obstetrical cases, such as turning or applying instruments; and in dislocations of the larger joints—such as the hip-joint—it might be very serviceable, like tartar emetic, in producing a temporary cessation to the resistance of the muscles. Even in this soporific and oblivious process, the mightiest boast of mesmeric power, and even though they could produce the result in every case, as is done by chloroform, which is far from being the fact, their pretensions must dwindle down into something of a second-rate character. Besides, it is by no means certain that pain is completely annihilated by the so-called unconsciousness of the mesmeric sleep; for if we give them the credit they demand, for the total obliteration of the memory in this state, it is quite possible that pain may have been felt, although not remembered. The same thing happens, to a certain extent, with inebriating and other agents that cause a soporific influence on the brain, and, as we have already mentioned, is exemplified in men greatly intoxicated. Although we have previously adverted to the possible risks of its employment, we may again ask if no dangerous or untoward consequences occasionally accompany its effects in cases of disease, which, with its uncertainties of effect and lengthened operation, might prove formidable obstacles to its use? Although mesmeric writers do not generally admit that fatal consequences to a patient's life have been the result of their operations, they acknowledge enough to show that considerable danger is sometimes their accompaniment. It is stated by one of these writers, that "it is well known that even a mere imaginary delusion has acted upon the nervous system with sufficient intensity to stop the vital activity of the system, and cause death; and mental shocks and fright very fre-

quently cause epilepsy and convulsive diseases. We cannot therefore feel surprised that so powerful and active an agent as the mesmeric, in its relation to the nervous system, may do mischief if it be ignorantly used or abused in its application."* It appears, then, that their claims in this department are very insignificant; for the mesmeric operation is not only very uncertain, but it is tedious, and accompanied with more or less excitement—sometimes with convulsive or hysterical movements—circumstances which cannot possibly favour the after treatment of the cases. And even were it equal to chloroform, whose certain and very efficient qualities for the purpose are not to be disputed; which opinion cannot for a moment be entertained,—its claims, on this score, must sink much lower in the scale of human discovery than mesmerists, from an excited misconception, generally imagine.

CONCLUDING REMARKS.

Mesmeric writers are very loud and magniloquent in their complaints against the public, for rejecting their doctrines on insufficient grounds. Thus, they assert that "it is often said that the alleged facts are obviously incredible;" "how can you explain them without rejecting all established knowledge of the laws of nature?" "that the facts of animal magnetism are observed only or chiefly in nervous hysterical persons, commonly females;" or that "the subjects of magnetic operations simulate or act the phenomena;" and that "complete failure has often taken place." As we have not founded any of our principal arguments against what is called the ordinary phenomena of mesmerism, such as sleep, sleep-waking, &c. upon such objections, a general answer to them may probably be considered sufficient. 1st, To take Dr. Gregory's illustration, it may be perfectly true, that it is not impossible to transmute lead into gold; yet, reasoning from all experience and experiment, the chances are a million to one, that he who would assert such a thing had been deceived, either by his own imagination or by spurious appearances. 2d, The ordinary phenomena being not opposed to the established laws of nature, are therefore not absurd or impossible; but assuredly some of those called the higher branches of the science are entitled to this appellation, as we have endeavoured to show. 3d, It is well known, that persons of a certain temperament, age, sex, or constitution, are the individuals most susceptible of mesmeric influences, and that the large majority of men cannot at all be influenced; now the evidence derived from such sources cannot be so good as that from the average of mankind, and tends obviously to the belief, that credulity, exaggeration, inaccuracy, incoherency, and love of youthful trickery, may often be component parts of the exhibition. 4th, It would be unjust to accuse respectable and truthful persons of simulation; but it is equally manifest, that there exist strong inducements to

* Barth, p. 131.

those who are fond of the marvellous, to appear in some of the characters often exhibited; and it must also be allowed, that mankind are not all honest; but certainly if the histrionic powers of an apprentice boy or girl were rendered as high as those of a Garrick or a Siddons, as is alleged by academic authority, this would go far to convince a sceptic that some mesmeric inspiration had been infused into the blood. 5th, It would be unfair to conclude that a failure, under the hands of a bungling mesmeriser, proved the fallacy of the doctrine; but it is undeniable, that such has often occurred by those who profess more or less proficiency; and hence the analogy brought forward, that if a man were to fail in the experiment of dipping his finger into red-hot melted lead, and burn himself severely, is by no means to the point; simply because the person who made the experiment did not attend to the rules for executing this manipulation successfully; whereas in the mesmeric processes, men competent in the art were the operators. For a similar reason, it is also somewhat amusing to listen to the comparisons which they draw between the rejection of their so-called facts, and the discoveries of Copernicus, Galileo, and Newton; for the latter are established on mathematical principles, whereas the former are not only not established on any principle, but are denied to be such by the large majority of mankind. Their favourite argument is, that "a fact is a fact;" but it ought to be observed by these sage reasoners, that what is called a fact is only to be considered such when the evidence for its existence is acknowledged, and then it will overturn any amount of hypotheses. If we were to calculate the chances of any novel doctrine, promulgated within historical times and more or less believed, being true, the chances might probably be more than a hundred to one against it; because credulity, specious argumentation, the love of change and the marvellous, with fraud, have either been in combined operation or separately acting their parts in its support; it is, therefore, by no means unphilosophical to predicate the chances which mystical and incomprehensible opinions have of ultimate establishment.

HOMŒOPATHY.

"Ex nihilo nihil fit."

The action of one piece of inorganic or inert matter upon another is generally in proportion to the mass, if the distance be the same; but in the living organic world, the power of agents in influencing its movements and actions is very irregular, so that no general law is observable; and therefore those that belong to each, although equally certain, require a separate determination. At the same time it must be conceded, as a deduction from every well-executed experiment in physiological research, that none of the numerous agents that have been tried cause any discoverable effect or change, in doses of great fractional minuteness. Thus, strychnia—one of the most powerful agents in existence—in its action on the animal system, would prove inert, or cause no discoverable alteration in an adult, when exhibited in doses of one-hundredth part of a grain. A similar law holds with hydrocyanic acid, arsenic, corrosive sublimate, &c. We may also refer to medicines which produce their peculiar effects only when the quantity exhibited is considerable. Thus, epsom salts or castor-oil will have no effect as a purgative, if given in doses of a grain; half-a-grain or a grain of nitrate or bicarbonate of potass would produce no impression as a diuretic; nor would a quarter of a grain of ipecacuan cause any particular effect on the process of perspiration. If we wished to produce sleep by means of an anodyne, a quarter of a grain of opium would in most cases fail in its effects; and if we wished to effect salivation by mercury (which is generally considered the test of the system being under the influence of this mineral), we would not succeed in this although we exhibited one grain of blue pill daily for a couple of months. The same principle applies to alimentary substances. If a healthy man were fed with fatty and farinaceous food, combined with alcoholic beverages, a greater or less tendency to obesity would be the result; but if the variety be the flesh of the larger quadrupeds, the production of muscle, fibrinous blood, &c. and a moderate deposition of the fatty principle, would most likely ensue. Again, in the first case, if a comparatively small amount of animal food, such as half-an-ounce or an ounce per day, were added to an ordinary farinaceous diet, the effect would not likely be discoverable; neither would half-an-ounce or double that quantity of farina-

ceous food have any appreciable effect in neutralising the injurious operation of what was purely animal. Such proportions, in the case of diet, are as little appreciable as the fractional doses of medicine we have already alluded to. It follows, therefore, that if an agent exhibited in certain doses have no discoverable effects upon a person in health (and this is the true foundation of all sound therapeutics), its influence on the system during disease must be equally small; for no analogy could support the opinion that a diseased state or an aberration of nature, would, as a general rule, be more easily influenced than the normal condition of the body. But homœopathists appeal to their experiments and transcendent theories. We have not space here to travel through the whole labyrinth of their refined and attenuated creed; but will give, to the best of our ability, a short abstract of their principal doctrines. Dr. Hahnemann, it is stated, deduced his doctrine of *similia similibus curantur*, from having taken some bark which he thought produced paroxysms of intermittent fever; and hence, if it can produce intermittent fever in a healthy person, it will cure the same disease in another, arising from other causes. Ipecacuan also, it seems, cures hemorrhages, because it causes fluxes of blood. Rose water cures ophthalmy, because it excites a kind of ophthalmy. In like manner, it is asserted that hyosciamus could not cure spasms, unless it had the power of exciting convulsions, &c. Medicines, they say, do not act as direct remedies; but by giving rise to morbid symptoms greater in intensity than those of the disease in which they are employed, on the principle that two dissimilar diseases cannot exist in the same person. The original disease yields, and on the discontinuance of the remedies, is, in its turn, speedily overcome by the powers of the constitution. The particular symptoms to which each particular medicine gives rise, is to be ascertained by experiments on healthy persons. Medicines are considered, by Hahnemann, most beneficial in minute doses; but homœopathists are cautioned against a too minute subdivision, or much trituration, as giving rise to dangerous symptoms. The experiments of this writer on healthy persons, with a variety of medicines, in order to deduce their employment in the cure of diseases, cannot be considered in any other light than as fancies or imaginary observations. Thus chamomile flowers, elder flowers, flowers of verbascum, bark, platinum, &c. are said to produce, in some of these instances, several hundred symptoms. It is quite unnecessary to quote farther from the doctrines of this ecstatic but plausible philosopher, as a sufficiency has been brought forward as a text for trying the tenability of his dogmas. We will therefore endeavour to show—1st, That his theory is not founded in fact, or is without sufficient proof. 2d, That the dogma regarding the minute subdivision of medicines, and the potency of infinitesimal doses being increased by trituration, shaking, &c. is based either on assertions or false observations. 3d, That the cures of the homœopathic practitioners are the result of the operations of nature, not of art; being often selected cases, or those where the fatality is smaller

than in many other diseases, and that a correct classification cannot be implicitly relied on.

I. THE HOMŒOPATHIC THEORY IS NOT FOUNDED IN FACT, OR IS WITHOUT SUFFICIENT PROOF.

The dogma on which the whole fabric seems to be founded, is, that medicines tend to cure diseases by exciting a new one, while the latter is speedily cured by the discontinuance of the treatment. Among the proofs of this, may be mentioned the assertions already alluded to, that bark produces intermittent fever in a healthy person; ipecacuan fluxes of blood; rose water ophthalmy; hyosciamus convulsions; frost-bitten parts being rubbed with snow; scalded parts held to the fire, or treated with hot oil of turpentine. No standard writer on materia medica and therapeutics confirms the above statements respecting the operation of the medicinal agents that have been quoted. It is pure fancy to assert that bark has ever caused intermittent fever; one cause alone being assigned by our best writers as its source, viz. marsh malaria; ipecacuan in medicinal doses never causes fluxes of blood; nor does the very harmless agent named rose water ever cause ophthalmy, and the disease will be very simple, indeed, if it alone can cure it; hyosciamus may cause convulsions in too large or poisonous doses, but its power over convulsive diseases, resembling epilepsy, is very problematical. Frost-bitten parts are no doubt advantageously rubbed with snow, but the temperature of snow may be 32° F., while the cold that produced the frost-bite may have been at Zero or below that point. Atmospheric air at 32° F. will not cause frost-bite, neither will snow in the way it is generally employed; the analogy, therefore, in these allusions, is very imperfect. Oil of turpentine may cause blistering, if sufficiently long applied; but we deny its superior efficacy, or even its equality to linseed or rape oils in the cure of burns; and these, we know, have been used extensively in large coal and iron works, where severe accidents of this kind are liable to occur. It is therefore clear that the theory is based upon facts, which, to say the least of them, are in the highest degree problematical. No doubt, the homœopathist may appeal to the commonly recognised allopathic doctrine of counter irritation, or curing diseases by exciting a new action in the system or vicinity of the existing malady, if it be local; but this is a totally different principle, for it is not pretended that the same treatment in a healthy person will cause a disease of a similar character. And what rational and experienced medical man would have the hardihood to assert that any medicine whatever, in the whole range of materia medica, could produce small-pox, measles, scarlet fever, typhus, hooping-cough, and phthisis; maladies so grave, that they send to their long homes a large proportion of the human race. And if belladonna should occasion-

ally cause an eruption when exhibited to a healthy person; can it possibly be a common-sense deduction that this is identical with scarlet fever? or would it not be contrary to every principle of sound theory to assert, that the disease consisted solely of the eruption, when this is simply one of its numerous symptoms? But there is another aspect of the subject, which turns out equally fatal to the creed. Suppose we were to grant the authenticity of their observations on the effects of medicines on healthy persons (which we cannot admit), an infinitesimal application of snow or oil of turpentine, or an infinitesimal dose of ipecacuan or hyosciamus, as we shall by-and-by prove, could produce no effect whatever; hence such experiments must have been performed with allopathic doses, which ought to be considered a direct violation of the homœopathic theory; for it is clear that if infinitesimal doses can operate on the diseased body, they ought also, from every known analogy, to act upon the healthy system.

Upon what evidence do the homœopathists rest their proof that infinitesimal doses, such as the millionth or decillionth part of a grain of any medicine, produce an effect or operation on the human frame? They answer, on experiments. This is, no doubt, the right principle of investigation on such a subject; but it is equally well known that experiments may either prove something, or be totally inaccurate and valueless. The doses of our principal medicines, recognised by all authorities in the medical profession, have been established and admitted for a very long period; and of late years their physiological action has been investigated by the highest scientific authorities, nor can one be pointed out (not a partisan of the homœopathic school) who recommends less than the 30th or 40th part of a grain of the most active agent; and why? Simply because no peculiar effects could be recognised, as a result of their presence in the system, in extremely fractional quantities. But then the rejoinder is brought forward, that the experiments of Dr. Hahnemann and his admiring coadjutors are entitled to as much confidence as those of other scientific men. This, *per se*, is unworthy of any special weight, for it is the uniform and frequently frothy declaration of every species of quack, fanatic, enthusiast, and blundering experimenter, who are even more tenacious of their opinions than men who are thoroughly rational and competent; and, notwithstanding their numerous anathemas and vituperations against the blindness and self-interest of their opponents, their opinions are universally scouted by the sensible part of the community, or by a certain class only tolerated as a subject of speculation and amusement. But independent of this inherent absurdity of the dogma, there is abundant internal evidence in the experiments of the founder for proving their fallacy. Thus, he states that chamomile flowers and bark cause each one or two hundred symptoms, and flowers of verbascom upwards of a hundred. Let us then take any of his list, even one limited to a hundred or so; we ask what medical man on earth, of education and experience, would assert that he could determine anything like this number,

when he knows the numerous and diversified other agents that are constantly operating on the human system. The *post hoc ergo propter hoc* mode of reasoning has been here carried to the *ne plus ultra*. On the same principle, results of a very whimsical kind might be deduced from a previous exhibition. For example, if a man were to swallow a dose of chamomile flowers in the evening, he might possibly be afflicted with the following sensations, viz. turn himself in bed, with his face to the antipodes, and dream of Mount-Alexander and the golden regions—make divers and vigorous thrusts into the sheets and pillows, perspire a little, have a twinge of the toothache, feel his great toe warm and his nose at the north pole, his tongue not comfortable, his lips chopped, his neck somewhat stiff, and his temper not very harmonious in the morning. Now, it would be easy for any medical man to increase this catalogue, by stubborn inquiries into all the regions of the body, and thus swell the symptoms that followed the exhibition of any particular medicine; provided the doctrine was admitted, that every real or supposed change in the condition of a person was the result of an agent exhibited some hours before. Such a proposition, however, is so glaringly untenable, that we cannot imagine that any intellectual man can entertain it for a moment. Why should not the movements and the varying composition of the atmosphere of our apartments, the qualities and quantities of the aliment and drink taken, the exercise, the ablutions, the condiments, the mental emotions, whose operations must of necessity be more or less varied and of the highest importance, be also taken into account? It is contrary to all reason and experience to refer slight and often imaginary alterations in any part of the system to what has previously been exhibited; for the very same occur when the individual has taken nothing but his ordinary drink and fare. Even in the ordinary practice of physic, where the peculiar operation of medicines has been determined rather from full than small doses, or from a long continuance of those which are moderate, it requires great knowledge, experience, and accuracy to distinguish those symptoms produced by the agent, from those which are the result of causes that might be in special or constant operation. But as homœopathy cannot stand the test of true experimental observation; in like manner, reason and common sense render its pretensions utterly ridiculous. Let us take, in proof, some fair analogies. It is a self-evident proposition, that if a millionth part of a grain of any medicinal agent can produce a discoverable effect, the millionth part of a grain of any other agent, used externally or internally, in the human body, will also produce an effect or operation. Thus, it requires a certain amount of food, a certain measure of liquid, to satisfy the appetite and appease thirst; and if this were limited to the millionth proportion, we all know what the result would be. Again it requires a certain amount of soap and water to purify the skin; but if a millionth part of the former and the same fractional proportion of the latter only were employed, the purifying process could not be effected,

even though the expedient of Tittlebat Titmouse were employed, viz. to wet the corner of a towel and rapidly apply it to the various salient points of his face.* Such examples are sufficient to show the fallacy of believing that because a particular agent, exhibited in certain doses or proportions will produce certain specific and discoverable results, it will cause the same or a similar operation when reduced to a minimum or to an infinitesimal quantity. Such a belief is opposed to all the laws of matter, and to all the experience of ages. But the homœopathist may here put the query, How does it happen that the smell of some substances occasionally produces astonishing effects, such as fainting, nausea, hysteric symptoms, &c.? We shrink not from the interrogatory, although odours are not within the precincts of ponderable matter; but as these ingenious theorists deal with doses that are not only imponderable, but incapable of admeasurement by any known means, we consider ourselves entitled, by way of compensation, to the privilege of considering the whole fraternity as a generation of men whose intellectual powers may be gauged by a law of similar construction. We admit, then, that odours, miasmatic and other imponderable agents, do produce an effect on the human body, and sometimes very well ascertained operations of a grave and dangerous kind. But does it follow from this, that the quantity of matter infused into the system is either infinitesimal in quantity or subject to the same mode of reasoning as that which we apply to ponderable matter? To suppose this, would be equivalent to an admission that matter which could be weighed in a balance, and analysed by chemistry, was identical in its action with what possesses neither of these properties. But we can go a step farther without damaging our argument, and even admit the probability that a much more moderate dose, in the imponderable than in the ponderable form, may be efficacious, from its extremely rarified condition; just as there is reason to believe that, as a general rule, the gaseous is more potent than the liquid, and the liquid than the solid form. But this argument can, by no means, be made available to prove that the millionth or thirty-millionth part of a grain of a solid or liquid substance, that is subject to the laws of ponderable matter, can have any effect; inasmuch as it has not the analogy referred to in its support, and is opposed to all well-conducted experiments on the subject. Besides, with regard to the operation of odours on the system of sensitive persons, the analogy is specious in the extreme; for they are efficacious on one organ alone, and cannot, like other medicines, act on the body through various channels; and if this sense be destroyed or paralysed, there is no evidence to show that they would cause the slightest operation on any other part of the system. If the sense of sight were lost, the rays of light alone, without the influence of the calorific and chemical rays, would produce no effect on the system; or if the ears were rendered deaf, by disease or otherwise, to every sound, would the reverberations of the air be produc-

* "Ten Thousand a-Year."

tive of any special operation? It is clear that our five senses are special in their perceptions and regulated by a series of laws of their own, and that they are chiefly destined to the important duties of guiding us safely in our walk and conversation, directing our investigations into every thing around us, and in promoting our happiness. Our imponderable doctors, however, who, have acquired some skill in logical gymnastics, will no doubt reply that the foundation of allopathic practice is on this very principle, viz. that we prescribe medicines that act on the bowels, kidneys, skin, uterus, brain, &c. This is no doubt true, and founded on experiments and facts, but the objection is by no means valid or formidable. Sulphate of magnesia acts on the bowels as a purgative, but it also acts on the kidneys, &c.; digitalis acts on the urinary organs, but it also acts on the heart and brain; tartar emetic acts on the skin, but it likewise operates on the stomach, bowels, and lungs; ergot of rye acts upon the uterus during parturition, but it also acts on the system inducing dry gangrene; mercury acts on the salivary glands, but it also influences the bowels, liver, &c.; besides most of the medicinal agents that are recognisable by chemical tests, can be discovered in the blood, or in some of the secretions, and can be employed in the cure of diseases through different channels, as, by the stomach, rectum, skin, blood, &c. It therefore follows that allopathic medicines are not limited in their operation to a single organ; and they can influence the system through several channels, whilst with odours the analogy fails, as there is only one organ of communication, and that being lost there is no effect whatever. But as the homœopathist, with his fantastic and indomitable pugnacity, may still make his imponderable atoms dance in the contest, in spite of every common-sense consideration, we must therefore go a step farther into infinitesimal calculations. Thus, Dr. Epps makes allusions to the minute quantity of soap in a bubble of soapy water, the minute proportion of lead detected by sulphuretted hydrogen, the thread of a spider's web, gilt wires, the daguerreotype, the dust of the puff-ball or lycoperdon, animalcules, the process of fermentation, vaccination, microscopic animals, &c. In order to show that we have no wish to deal unfairly with this argument, we will grant his quotations as examples of the operation of very minute quantities of matter; although it by no means follows that, because these operate in something apparently like infinitesimal quantities, other bodies follow the same law. Thus, although lead can be detected in very minute quantities, there is no such minute test for zinc and many other metals; the thread of the silkworm is less attenuated than that of the spider; silver or tin do not follow the same law in gilding as gold; the quantity of silver used in the daguerreotype is no doubt small, but the proportions vary according to the nature of the combination employed; the dust of the puff-ball is minute, but the seeds of the large majority of plants are tangible and visible; microscopic animals have undoubtedly an extraordinary tenuity, but there

is a distinct range of living beings from them up to the highest; yeast and vaccine matter act in small quantities, but it has yet to be proved that the ten-millionth part of either will cause change upon any living or dead substance. These allusions have been quoted, not with the view of combating the influence of minute quantities of matter on other bodies, but to show that when this occurs, it is owing to a peculiar law belonging to each; and that it would not be sound philosophy to infer that ipecacuan, jalap, digitalis, and other medicines act in infinitesimal doses, simply because the puff-ball is so exceedingly minute in its atomic configurations, and the gossamer so remarkably attenuated. The laws which apply to one animal, vegetable, or mineral, by no means apply to another; and these can only be determined by experiment and observation in each individual case. If the assertion were made that every substance in nature, taken into the human body, produced an ascertained effect, in infinitesimal doses, which was increased by trituration, this would be a tangible dogma to proceed upon; but as they do not, we believe, commit themselves to so monstrous a statement, they are necessarily bound to the conclusion that their system must depend alone upon experiments, and upon no specious or false analogy. They are, therefore, clearly driven to this alternative; and they are by no means at a loss in presenting an abundance of material of this kind. Their proofs, from experiments, consist of two kinds: 1st, Experiments on healthy persons to ascertain the effects of medicines on such individuals; and 2d, The effects of the same medicines in the cure of diseases. An *a priori* examination of this would lead a large majority of simple and speculative persons to believe, that nothing proposed could be more fair in principle; and so it would if the principle were adhered to in practice; but the reverse of that is the fact, for in the first case they use allopathic doses, or the ordinary doses of medical practitioners,* while in the second they use those which are infinitesimal. Why do they this? Clearly and simply, because infinitesimal doses produce no discoverable change in the system. Were they able to cause physiological effects, by homœopathic doses, there is almost a moral certainty that these their own microscopic progeny would have been triumphantly adopted as the heroic agent. It follows as a clear common-sense corollary or conclusion from this, that if homœopathic doses produce no discernible effect on the functions of the healthy system, neither will they cause any operation whatever upon the human frame during disease. But further demonstration is required to demolish this argument, for homœopaths entrench themselves behind three specious but transcendental dogmas:—1st, An increased receptivity of the patient during disease. 2d, The development of the virtues of the medicines by the preparation. 3d, The selection of the right remedy. With regard to the first proposition,

* "Those opponents, then, who argue that medicines in infinitesimal quantities do not act on persons in health waste much time, and expend uselessly much trouble. No homœopathist maintains that they do."—*Dr. John Epps on HOMŒOPATHY*, page 119.

passing over an analogy from the pollen of flowers, which being a natural law of the vegetable creation cannot apply to the case, we may cite the following passage from Dr. Epps:—"Does not every one know that when the eye is diseased, the otherwise welcome light of day is shunned with the greatest dread? Does not every one know that when the tongue is ulcerated, the salt which savours food is excluded with the utmost care from the mouth? When one is afflicted with headach, do not the sounds of one's children—sounds most delightful at other times—become a source of strong irritation," &c. The susceptibility to impressions made on certain organs during disease, is well known to the medical profession, and the discovery therefore cannot be claimed by Hahnemann or any follower of his creed; but it is unfortunate for the conclusion they build upon it, that this law has a range only of limited extent. Thus, we take his own example of homœopathic receptivity. If the tongue be excoriated or ulcerated, by too long contact with common salt, a new application of salt would, no doubt, produce considerable smarting; but if one of salt to thirty-millionth parts of water were taken and mixed together, according to homœopathic rule, there would be thirty millions of chances to one that no result or effect, tangible or visible, of any kind would be obtained; and if they built their conclusion upon the cure of the ulcer, this can be met by the fact, that in every healthy person such an affection will get well in a few days, without treatment of any kind. If an undue exposure to the rays of the sun should produce ophthalmia, an infinitesimal dose of light admitted to an ordinary room would be equivalent to total darkness, which has always been considered negative and not positive in its effects on ophthalmic affections. Again, to take Dr. Epps' illustration of "receptivity:" if "a strong muscular man" should bring on rheumatism by over-exertion, an infinitesimal application of motion, such as the thirty-millionth part of the exertion required by a blacksmith, would amount to nothing that was capable of appreciation, either by the patient or an accurate observer of dynamics; or, if a man's brain has become intensely sensitive by extraordinary noise, would any rational person say that the positive absence of this was anything else than a negative result, more especially as the "God of Silence" was the lord of the bed-chamber?

II.—THE DOGMA REGARDING THE MINUTE SUBDIVISION OF MEDICINES, AND THE POTENCY OF INFINITESIMAL DOSES BEING INCREASED BY TRITURATION, SHAKING, &c. IS BASED EITHER ON ASSERTIONS OR FALSE OBSERVATIONS.

Some feeble analogies are brought forward to support this fanciful notion; such as the heat given out from the combustion of fuel—heat and electricity evolved by friction—the increased diffusion of the fragrance of Eau de Cologne when rubbed on the hands, &c. In the first example brought forward, viz. combustion, there is always a chemical decomposi-

tion; in those of frietion or percussion, the amount of heat or electricity evolved is more or less in proportion to the weight of the substance employed, and not in the ratio of its diminished quantity, and cannot be increased beyond a certain amount by any possible trituration. Eau de Cologne obviously gives out more fragrance when rubbed on the hands, because the evaporating and exhaling surface is large and powerful. It is also stated that medicines may be increased in potency, even to danger, by such triturations and shakings. Why then have recourse to them, and put hazardous weapons into the hands of experimenters, some of whom may not be *au fait* in this mysterious art, in place of jogging in the old path, and using substances that have been previously dosing on the shelves in a perpetual slumber? This dogma must be considered a gratuitous assumption of a most unwarrantable kind; as it is supported by no real analogy, fact, or experiment. Even Dr. Epps admits the obscurity of the subject. He says, "it may be difficult to explain how this attenuation, this trituration, developes new powers, but of the fact there is no doubt." If trituration and agitation had really such effect in augmenting the powers of medicinal agents, it would be one of the most extraordinary phenomena of modern discovery, and would be productive of danger and disaster beyond all human calculation. Without at all resting our argument upon many articles of diet, which might fairly be brought forward, let us simply test this absurdity by a reference to alcohol, and the various beverages which contain it. But, in case these hair-splitting scholastics should deny the cogency of our reasoning, it is necessary to exemplify the formula. Alcohol, in all its forms and combinations, gives rise in those who use it to more or less fulness of blood in the vessels of the brain, to congestion in others, and apoplexy when taken very immoderately; it therefore must be useful for these affections, when administered in homœopathic doses, prepared, of course, by triturations and agitations. It therefore follows, that if these agitations can be shown to exist, the article in question must be increased to an infinitesimal degree in intensity of action. Now, let us take a puncheon of Madeira, and calculate the agitations and commotions engendered by fermentation, in the first instance, and its subsequent transit to the East or West Indies, for the improvement of its quality, by the motion of the ship, &c.; what other conclusion could be drawn from the premises, than that the potency of the alcohol would be increased, at least a million times; and that a glass of this highly celebrated wine would be equally fatal as one of the Athenian poison! But the fact is not so; for its alcoholic strength is only increased, in so far as its maturity has been attained, and that to a very limited extent. Again, let us take alcohol, in its numerous forms, such as brandy, gin, rum, &c.; look at the multitude of agitations these undergo—1st, in the fermentation; 2d, in their distillation; 3d, in their being put into vessels for preservation; 4th, in their agitations while travelling from one country or place to another; 5th, in their manufacture into punch,

and a variety of other delectable compounds. Verily, Aecum's "death in the pot" was a trifling affair compared to this! But, with their interminable though mystified logic, they may answer that the formula for their preparation was not attended to—viz. their separate and various triturations with sugar of milk, &c. and their solutions in water and alcohol, accompanied with the very notable manipulation, the double shake. These directions, as implying any special multiplication of power, are so absolutely puerile, so contrary to all experience, and so ridiculous as to defy all argument; and require to be considered only for a moment, by every man of common sense, to see their inherent absurdity; while the merest tyro in an apothecary's shop, or a housewife learned in the manufacture of culinary compounds, would scout the propositions as incomprehensible and unfounded fancies of the human brain.

III.—THE CURES OF THE HOMŒOPATHIC PRACTITIONERS ARE THE RESULT OF THE OPERATIONS OF NATURE, NOT OF ART.

The cure of diseases is the grand field for the exultation of the homœopaths, and verily they have much need of some redeeming point; their pretensions there, however, will not be found much superior to their fanciful imaginations on the theory of medicines; but before referring to the statistics of cure, on which they build their claims, let us make one or two remarks upon the nature of the evidence they present to us. No judge or jury would place any reliance on the evidence of a person affected with mental imbecility; neither would they give much credit to a habitual liar; nor would they place much scientific reliance on the man who believed that one could be made equivalent to a million, or that a few atoms of a material substance could be increased, in the intensity of its action, a hundred millions of times, by any possible manipulation. Incapacity, dishonesty, and incapability of accurate observation, are all of them disqualifications or drawbacks in the estimation of evidence. It is an ungracious task to question, on general grounds, the competency of those homœopathic physicians of public hospitals, whose very office should make them respectable; but, in reality, the conclusion is inevitable, that men who believe and propagate downright puerilities and absurdities as facts and observations, cannot be fully trusted as to capacity in any experimental train of investigation. Thus, a man who believes that the trituration of a grain of oyster-shell or charcoal would, by subdivision, be converted into a very powerful medicine, in doses of the decillionth part of a grain, might, with much less difficulty, believe that bronchitis was pneumonia; confound functional with organic disease of the heart; ephemeral fever with typhus; erythema with erysipelas; a scarlet eruption on the skin with scarlet fever; an attack of shivering with intermittent fever, &c.; indeed charity would incline us to prefer the intellect of the man who formed the latter opinions, mistaken though they be, to that of him who

had faith in the former. But we rest not our conclusion upon abstract reasoning alone; for facts and experience are also in our favour. Let us, for example, take their own statistics derived from public hospitals, and after subjecting them to a few points of analysis, see what proof they can fairly furnish from this department. Before we can make any just comparison between the mortality, we must determine—1st, Whether they are situated in large or provincial towns? 2d, Whether the cases are or are not selected? 3d, Whether the nomenclature of both is identical?*

Dr. Gairdner has shown very clearly, that provincial are necessarily subjected to a smaller mortality than metropolitan hospitals; and it is not difficult, *a priori*, to appreciate the cause of this. Provincial hospitals, in general, only receive patients from the districts which immediately surround them, not generally a very wide area; whereas metropolitan hospitals receive them from a great distance, and often those cases which have been found intractable and incurable at home, or in other institutions. Such maladies frequently terminate fatally, and thus swell up to a maximum the mortality of the establishment. It would be obviously, therefore, unfair to draw any comparative conclusion between these two cases; for the one represents the diseases of the district—the other those of the district in addition to malignant maladies from many other parts of the country. It is also very obvious, that if the patients of an hospital be selected, the amount of mortality will be in proportion to the kind or quality of the selection adopted. Thus, if pulmonary consumption, organic diseases of the heart and kidneys, apoplexy, palsy, organic diseases of the brain and liver, with dropsy, be excluded or few in number; and the large proportion consists of cases which speedily get well or are more rarely fatal, it is manifest that the comparison between an infirmary which manages matters in this fashion, must greatly differ from that one which admits promiscuously all sorts of cases. We might also here allude to unfair expedients sometimes adopted, although very rarely, by unscrupulous physicians, to diminish the ratio of mortality; but as we do not mean to found any special argument upon this that would inculcate the homœopathist, we will merely state, that patients have sometimes been considered cured when sent to the convalescent wards, although it occasionally happens that they die there of the *sequelæ* of acute diseases, or in their own houses, if their removal has been injudiciously hastened. Such cases ought not, obviously, to be excluded from the hospital's mortality bill, if correct results be the object in view. Again, a fallacy in the comparison sometimes results from a difference of nomenclature (seldom, however, in our large and public institutions), which, in the present days of enlightenment on this branch of medicine, must, with all charity to the profession, except in obscure and complicated cases, be attributed either to want of knowledge or design. If a physician classified an ordinary

* See a very able article on the subject by Dr. Gairdner of the Edinburgh Infirmary.—*Medical Times and Gazette*, 3d April, 1852.

case of bronchitis as pneumonia, he must be acquitted of all knowledge of auscultation; nay, he must be accused of misunderstanding some of the general signs of these diseases. A slight erythematic inflammation of an extremity, with little or no constitutional symptoms, may be classed with the dangerous affection named erysipelas; a small tinge of blood in the expectoration from coughing, and coming from the throat during a catarrh, may be set down as a case of hæmoptysis; a muscular pain in the chest, with more or less catch in the breathing, as pleurisy; or a pain in the abdomen occurring in a dyspeptic, from constipation and flatulency, as an inflammatory affection of the bowels. Accuracy in this matter is also clearly indispensable. Homœopathic practitioners being all intuitively honourable, or, if they are desirous of a superlative, *right* honourable men, will ask, with indignation, if we mean to insinuate aught against their unspotted escutcheon. We are placed, no doubt, in a kind of dilemma; but we must needs throw down the gauntlet here also. Without burdening the subject with other evidence, we may quote from Dr. Gairdner, who has very clearly shown that the cases in Fleischmann's Hospital, Vienna, belonged chiefly to that class of diseases which are not so fatal as a number of those which either did not seem to be admitted, or were few in number—such as phthisis, and those other very mortal diseases already referred to; but consisted chiefly of chlorosis, cholera, colic, diarrhœa, dysentery, gout, hæmoptysis, headach, herpes, inflammation of brain, endocarditis, pleuritis, peritonitis, cynanche tonsillaris, influenza, varicella, &c. many of which are accompanied with no danger whatever. It may also be asserted with more or less certainty, and the statement is corroborated by the internal evidence of their statistics, that bronchitis and pneumonia, a stitch in the chest and pleuritis, might be approximated to as near a family relationship as that which subsists between some diseases of homœopathic classification; viz. the ague produced by bark and intermittent fever; or between the scarlet eruption arising from the employment of belladonna, and scarlet fever. The evidence for the first position, false though it be, is at least equal to that for the latter; and any educated man, with his eyes open, who would believe the second, is fairly entitled to credit for his support of the first. But notwithstanding all those damning circumstances of the case that have already been brought forward, the crowning argument still requires to be adverted to—and which, moreover, applies to every species of quackery—viz. that their pretended cures are effected by nature. It has been shown, in a previous part of the illustrations, that a certain portion of diseases recover spontaneously; a certain portion are incurable by medicine; and the remaining are, more or less, within the domain of scientific treatment. As we have already shown, under Mesmerism, it is not difficult to demonstrate, that, if a certain portion of maladies tend to a natural recovery, without any treatment whatever, and under every variety of treatment that is not calculated to undermine materially the powers of life, the chances of the

homœopathists are about the same as those of others; and there they can claim no proofs of their notable discovery. Again, in positively incurable diseases, such as pulmonary consumption and cancer, if their diagnosis be correct, they are as impotent as other practitioners. If we, however, take that class of diseases where medicine has a distinct power in regulating, controlling, or removing the malady, the case is different. We may instance apoplexy and its premonitory attacks of congestion of the brain, in which local bleeding, particularly cupping, purgatives, and low diet are so unquestionably useful; dangerous constipation of the bowels, in which it is as plain as it is practically true, that medicines for their evacuation are indispensable; the speedy cure of primary syphilis, in order to prevent the absorption of the poison into the system; and almost the whole range of chronic cutaneous diseases and ulcers, including the itch (a favourite of the homœopathist), may be brought forward as a few exemplifications, out of the many that might be adduced. What would the millionth part of a grain of alcohol, opium, or any other apoplexy-producing drug do in this disease? A bread or starch pill, which is equivalent to nothing, would effect as much. Will the billionth part of a grain of kino act on the bowels? An atom from a puff ball would be as efficacious. Will the decillionth part of a grain of sulphur cure the itch? The noble insect that riots with delight in its warm and comfortable quarters, would scorn with contempt the impotent attack. If a man were in anguish from a neglected constipation of his bowels, would the millionth part of a grain of opium free him from the accumulated load? A Lilliputian might just as easily have cleansed the Augean stables as Hercules. Then, how does the case stand in comparing the statistics of the regular with the homœopathic practitioner? The latter boasts of his superiority in the proportion of cures. This we deny, if the comparison be made with many hospitals of this country, in which it will be found that the mortality is less than in some of their vaunted establishments;* but a true comparison never can be instituted between two institutions, where in the one the nomenclature is amenable to the established form, and is without special selections in the admissions; whilst in the other a deviation from these rules is more or less the practice. In the present condition of the facts, we totally repudiate the value of all statistics in settling the controversy; and until some method be devised, free from all possible inaccuracy or chicanery, the matter, as far as this species of proof is concerned, is still in *statu quo*. Their boasted superiority has, therefore, broken down in the demonstration, and no competent judge of professional evidence would add to their deductions, the infallible conclusion, "*quod erat demonstrandum*." At the same time, we do not undervalue the importance of such statistics; for they lead to the deduction of most important conclusions, viz. the proportionate mortality

* See Mr. J. Thomson's Statistics of the Principal Civil Hospitals in Scotland.—*Edinburgh Medical and Surgical Journal*, No. 157.

in a given hospital, as an integral part of the district to which it belongs; the proportionate mortality of certain prevalent diseases and epidemics, and the sanitary or preventive means that it may be necessary to adopt for diminishing their amount and fatality. But their value, when contrasted with other hospitals differently situated and circumstanced, is only approximative and not absolute; approximative when an allowance is made for the circumstances, &c. of each; but not positive demonstration, because a true comparison can only be drawn when both are as much alike, in all respects, as it is possible to ascertain. Although the infinitesimal mystics are obviously imbued with the most helpless imbecility in regard to sound or common-sense argumentation, they evince an extraordinary development of a certain nameless but nevertheless notable faculty, viz. an uncontrollable and mischievous propensity to launch their pithless anathemas against allopathic practice, and the whole walk and conversation of the regular practitioner; we are, by all the laws of self-defence, at least entitled to ask if their own consciences are burdened with no sins of omission or commission? We clearly cannot convict them of any sin of the second kind; for the very plain reason, that nothing is committed to their charge but homœopathic cocoa and chocolate—very harmless substances, most people will admit; but we have grave reasons for bringing in a bill of indictment against them, for the constant practice of the first-named transgression. It is no doubt true that they do not, in any shape or form, interfere with the functions or processes of vitality during disease; but they leave as unassisted many diseases capable of cure or regulation,—as if they were to apply to the femoral artery that had been severed across, a single atom of arrow-root, with the object of checking the hemorrhage! If a dangerous discharge of blood should proceed from the lungs, stomach, or uterus, it would be the most unwarrantable and culpable trifling to give the billionth part of a grain of ipecacuan, or other homœopathic agent. If the bowels were obstinately obstructed and peritonitis impending, would it be anything but a solemn and audacious farce to treat this formidable affection with the millionth part of a grain of opium? Before winding up this department, it is necessary to notice the dietetic treatment adopted by homœopathic practitioners. Without laying much stress on their classification of aliments, and on the grade or position in which their relative properties are arranged, and the exclusion of tea, coffee, &c., which, to say the least of them, are unfounded dogmas; we may bring forward, as an example of their fanciful crotchets, their placing fishes before fowls, and potatoes before bread, butter, and cheese, as nutritious substances. Now, this is contrary to fact, and so opposed to all our chemical knowledge of alimentary matters, that either ignorance or an intentional singularity must be attributed to the abettors of such inconsistencies. But this is venial, when compared with their precepts respecting the dietetic treatment of acute diseases; for they advocate the doctrine, that little or nothing ought to be exhibited to the

patient, during the acute stage, but cold water, because the stomach cannot digest anything nutritive. We are willing to grant, that the digestion of a patient labouring under an acute disease is exceedingly imperfect, although not extinguished; but it would be nearly as rational to recommend absolute abstinence from food to the thousands of men who have naturally imperfect assimilation, or who are so circumstanced in society that it never can be much amended. The tear and wear of the frame may be for a long time supported, even though the digestion is anything but healthy. It is even so in acute diseases, such as fever; digestion is not destroyed, although greatly enfeebled; and if the malady were protracted for several weeks, and nothing but cold water exhibited, the person might sink from inanition just as certainly as if he had remained without food for the same length of time under his ordinary health. At the same time, it will be granted by every judicious and experienced practitioner, that errors may be committed by excess in this department; and that much knowledge and caution are required, both as to quantity and quality, in the due administration of alimentary matters to the sick, labouring under febrile and other acute diseases.

In fine, it may be considered a conclusion, clear almost as noon-day to every sound-headed and sound-hearted man, that the homœopathic system is irrational in theory, fallacious in observation, and dangerous in practice; and though its agents and supporters have not hitherto met with their deserts from the juries of this country, such as have sometimes been awarded to less culpable individuals of the regular profession, the time is awaiting them, when their indefensible trifling and neglect shall be visited by the judicial condemnation which they so justly merit.

HYDROPATHY.

"He knew whate'er to be known,
But much more than he knew, would own;
What medicine 'twas that Paracelsus
Could make a man with, as he tells us."—HUDIBRAS.

Water has in all ages been esteemed an essential of existence—nearly as important for the preservation of life as food and atmospheric air; and, in like manner, its beneficial effects in promoting and preserving the health, when applied externally, has been known from the most remote antiquity. The inhabitants of many countries have, however, been slow and irregular in their application of this knowledge; although writers have not been wanting to prove its utility in the treatment of disease, and for the preservation of health. Even in modern times authors of celebrity, such as the late Dr. Currie, have published reports of cases, chiefly febrile diseases, which were treated successfully by cold affusions. The application of cold water, in the cure of diseases, is therefore not a new discovery of the nineteenth century but of a period unknown in the history of medicine. That peculiar sect of practitioners, named hydropathists, cannot therefore lay claim to this so-called discovery; unless they make it consist of establishments of invalids, placed under certain regulations, having means, appliances, and manipulations for the application of cold water to the skin, and using it internally in large proportion. In order that we may give a fair estimate of their claims to success, in the employment of this agent for the cure of diseases, and as a substitute for every other mode of treatment, we will notice—1. Their theory of cure. 2. The value of their peculiar application of the water. 3. Their cure and treatment of diseases.

I. THE HYDROPATHIC THEORY.

As the great apostle of this doctrine was not eminently qualified to write on medical literature, his diligent and benevolent disciples have, in many instances, felt the spirit move them to supply the deficiencies of their inspired patriarch. There is, however, some difficulty in determining the precise authority to appeal to; for their codes of hydropathy are sometimes rambling episodes on the science, or mere systems of verbosity, concerning analogies and illustrations that have little to do with the matter. Had

the sage of Silesia been gifted with a centesimal part of the learning of Hahnemann,* a labourer in a vineyard, in some respects, not very dissimilar, he might not have written nearly a hundred volumes, but he might have given us an "Organon" suited to his diminished capacities, and which would have irrigated and fertilised the field in an orthodox manner. But as we have a principle to deal with that is so very universally diffused through the globe—that has been used by man, from the first period of his existence—that is employed every day, in ordinary life, in all possible forms of intentional or accidental application—and that is so important, as at one period to be considered one of the four elements of the creation, the want of profound erudition in its illustrators will not entail upon us the same labour as it would have done in the case of the homœopathists, had no such stores been registered in quartos and folios. Some hydropathic authors, however, have contrived to throw a good deal of mysticism over this very plain subject, by ingenious illustrations, taken from oxygen and hydrogen, and by drilling the steam-engine into an intimate connection with the machinery of life. As far as their theory is intelligible, it seems to consist mainly of the following position, viz. that oxygen and hydrogen (the component parts of water) are the principal agents in the transforming processes of nature; building up and pulling down, or supply and waste, according to their elegant phraseology, and that the grand object ought to be the stimulation of these to high activity; or, in the language of physiology, to increase the powers of digestion and absorption. Exercise, by increasing the frequency of the respiratory process, causes the consumption of more oxygen; residence in a cold climate produces the same effect, because the air that is inspired contains more oxygen in a given bulk. It is, moreover, asserted by these able theorists, that when we throw a stream of cold air on the fire, it is the same as throwing cold water on the body, and that it is a matter of indifference whether it be cold air or cold water with respect to the food.† Some points in this enunciation are quite true, and it is universally known and acknowledged that cold in any form, within a certain limited extent, promotes the appetite and digestion, as well as the other functions of life, and tends to favour longevity. A temperate climate is favourable to the health of the European; while the excessive heat of the tropics engenders disease and enfeebles the whole digestive apparatus. How, then, are these effects produced? do they arise solely from the operations of heat and cold? or is an influence superadded to these? Excluding endemic and epidemic diseases, let us view the case simply with regard to their operation on the assimilating organs, as this is the point on which the whole argument is hinged. It is quite true that a given bulk of cold air contains more oxygen than the same bulk of warm air, and if the number of respirations be equal, more blood must be oxygenated in the

* According to Dr. Epps' list, Hahnemann published nearly 100 vols. (*Oh tempora! oh mores!*)

† Dr. Johnson on Hydropathy.

lungs in the one case than in the other—hence one of the advantages of a cold atmosphere; but this is not all, for temperature alone, without chemical decomposition of any kind, is most powerful in its operation. If, for instance, in Russia or one of our very northern regions, any tender part of the face were not duly protected from the intense cold, frost-bite would be the result, and sloughing and ulceration of the parts would probably ensue. Again, if ice be applied for too long a period to any tender part of the body, with a curative object, an analogous result may follow. A hasty reasoner might, in the first case, be inclined to conclude, that as atmospheric air was concerned in the matter, a chemical decomposition was effected, through the medium of its oxygen, as happens in the lungs; but if we analyse the other case, which is identical in all its phenomena, we will see at once the fallacy of such a supposition.

The ice gradually changes its form and is converted into water; but no scientific person has ever been known to assert that it was thereby resolved into its elements—the oxygen being absorbed and the hydrogen disengaged as a gas, as happens when such decomposition ensues, from the addition of substances that have a strong affinity for the first element. It is, therefore, clearly from one cause alone, viz. the temperature, that cold water can be and is beneficial. And why should cold or heat, *per se*, not be considered powerful agents on the animal economy, when we know that the first can solidify many of our oceans, rend asunder many of our gigantic rocks, and pile up to the heavens mountains of ice and snow; while the latter can turn solids into liquids and gases, and convert into fluidity basalt and other refractory mineral productions? We do not assert that the hydropathist, in formal terms, defends the hypothesis of the decomposition of water, when applied to the skin, through the medium of their peculiar processes and manipulations; but their reasoning certainly tends to produce this impression upon the reader; and if this be their doctrine, it is obviously a deception, calculated to capture a surface and unwary reasoner into the belief of a creed, which is so simple in its nature, and yet so powerful in the chemical changes it induces, through the medium of the skin.

Such is the influence of the skin on the animal economy, that though we are not bound to admit the supposed or implied theory of the hydropathist, viz. the decomposition of water when applied to this extensive surface, we admit the necessity for some rational theory of its utility. Without damaging the argument, it may be admitted, that though the skin does not decompose water, it may, like the lungs, be in constant operation, in decomposing atmospheric air; and we believe that all experiments tend to support this opinion. If such be the fact, here is one very important reason for its influence on the health. If the atmospheric air be contaminated, or if its access to the pores of the skin be prevented, by any cause whatever, such as accumulated deposits on the skin, it is obvious that this, though not so fatal or injurious, as in the

case of the lungs, must prove very prejudicial to the health. But this is not all, for the skin is an exhaling apparatus, with myriads of pores, which carry out of the blood impurities of various kinds, which, if retained, would act like other extraneous and poisonous substances. It is therefore to these two actions that we must refer the beneficial consequences resulting from the ablutions of cold water, when combined with the bracing influence and stimulus of all the functions, caused by the reduction of temperature. If such causes as these are in operation, and sufficient to account for all the phenomena, why have recourse to a hypothesis which is highly improbable, and not agreeable to any of the analogies derived from the chemical separation of water into its two elements? But, it may be asked, is there not something almost miraculous in the virtues of the cold sheet? It is, certainly, not a little surprising that some of our fashionable people would condescend to enclose themselves in this refined sackcloth; but making all due allowance for the discrepancies of human character, it undoubtedly indicates a more ardent faith than might, *a priori*, have been prognosticated, considering the icy vibrations that thrill from this battery to the very diaphragm. But this is not all the elysium in store for the patient; he is speedily carried from the arctic to the torrid zone, there to fry for a season, and luxuriate in all the delights of sweat and swaddling-clothes. This ingenious device, however, although not superlative in its superiority, is still of some service to the public; for it relieves the plethoric alderman of the surplus of his turtle soup, and those whose faces are purple from the juice of the grape of the alcoholic ferment which is about to breed organic evils in the brain, liver, or kidneys. Besides all this, it vastly accommodates those indolent persons who will neither walk, dig, or climb Skiddaw or Helvellyn. But the earnest believer in hydropathy may be inclined to assert, that it is not possible this hypothesis of waste and supply, so miraculous in its influences, can be accounted for by theories and operations which are common to all civilised nations, and which have been more or less known from time immemorial; and that there must be some special or peculiar power, not previously discovered, which renders the manipulations of the hydropathist so remarkable in producing that waste or consumption of the old materials of mortality, including morbid fluids and solids, and replacing them by fresh and uncontaminated atoms, derived from the rapid digestion of pure and vitalising alimentary substances. That the blood and all the secretions are purified by the processes we have described, that great ameliorations of the health are often produced, and that tendencies to organic disease may sometimes be eradicated or prevented by a regular perseverance in such means, admits of no manner of doubt. But it by no means follows that these processes of the hydropathist have any special mystic or preternatural action on the skin. They may all be explained most satisfactorily, according to hygienic principles, so well understood and illustrated by writers on the subject. If a man

living in a large and crowded city, and who has injured his health by want of exercise, or excesses in eating, drinking, and other irregularities, be sent to the country for the sake of a cure; if there be no organic disease, and if he is possessed of average stamina; a similar improvement would follow, provided he took sufficient exercise, used the cold bath, lived regularly, committing no excesses, and provided he attended to his diet and the functions of the stomach and bowels if deranged in their action. A man of firm resolution requires no rules but those he has himself laid down, to keep him in obedience to the law; but it unfortunately happens that all are not gifted with such qualities; and we may probably, with justice, add the smaller proportion of mankind. It therefore often happens that men who are under no self-control, practise in this their sanitarium, the very same destructive habits which they were enjoined to eschew. Hence the improvement cannot possibly be commensurate to the expectations; as it would have been had common sense regulated their conduct. But in a hydropathic establishment, example and precept have their full weight upon every resident within its boundaries; and the military sort of law in operation has an admirable effect in restraining refractory or erratic patients. There is something also to be attributed to their enthusiastic faith in the treatment, and to their animated discussions about the cold sheet, the antagonistic forces of cold and heat, and the shock resulting from their combination; the douche, with its possibly infinite variations; and the controversies regarding water at 32° when contrasted in its effects with that at 50°; with ramifications into snow, ice-clad mountains, avalanches and habitations within their grasp, and a multitude of other frigid topics which liquefy and become genial under the fostering warmth of the eloquent expositors. Having said this much in favour of hydropathic establishments, and as we have no wish to deal unfairly even with the least heinous of the charlatanic delinquents, we may, here, bestow one or two remarks upon the possibility or impossibility of conducting a regular hygienic institution on a similar footing, but with sound faith and practice. Many, *a priori*, would consider this a proposition of very easy solution, and that little more was required than the means, and a competent individual to take the management; and with the sensible part of the community, there can be little doubt of the matter. Patients, however, are not all endued with the faculty we have alluded to; indeed, waywardness and irritability are often generated by the maladies they are subjected to, and it might not be possible for an honourable and judicious man to sway the refractory without a degree of rigour which might be repulsive and disagreeable to his feelings. There would, also, be another want in the system, viz. mysticism; for nothing captivates the imagination of enthusiasts so readily, and thus ensures belief and obedience, as a confidence in something that is confused and unfathomable, with the glimmering of a truth that is imperfectly tangible. The experiment is, however, worthy of a trial, and were it conducted under specific regula-

tions, by a medical man of experience, with judicious and scientific acquirements, and who would employ the requisite medicine when it was rationally required, and were the establishment placed in a healthy locality, it might turn out not only a successful but a profitable enterprise. To the city physician it would be a boon, for it would provide for him a sanitarium or convalescent hospital for completing the cure of many a patient.

II. THE VALUE OF THEIR PECULIAR APPLICATIONS OF THE WATER.

It would be an unprofitable employment of time to discuss in detail the value of all the contrivances and manipulations that are employed in the cold water cure; but as the advocates of this system may stickle with pertinacity to this point, we are ready to grant, with the view of simplifying the argument (though we cannot absolutely concede this matter, which is still *sub judice*), that their ingenuity may possibly have devised one or two things that are useful and convenient, in the application of cold water to the skin, or different parts of the body. Although we may concede this, for the reason already mentioned, it by no means follows that cold water can act on the system upon any principle different from the one that results from its ordinary application. It can only go the length of proving, that instruments and facilities for its thorough application have been discovered and employed. Taking into account every specific result, which can be produced by hydropathic practices and processes, they may be reduced to the following divisions, viz.—1. The bracing and invigorating effects of an ablution with cold water on the whole frame, and the stimulus which it gives to the functions of assimilation, and to all the secretory and vital organs of the body. 2. Its application for the induction of perspiration. 3. Its topical application for the cure of local diseases. With regard to the first question, hydropathy can be met, most triumphantly, by the ordinary means; for what possibly can be more calculated to produce a shock than the shower-bath? what more calculated to prolong the immersion than the plunge-bath—both in ordinary use in numerous families, and which may be repeated, if admissible, more than once in a day? No doubt, the hydropathist has his times, his seasons, and his *formulæ* for this special purpose; but no particular advantage can accrue from these, unless it be that the body and mind are kept active by the repeated scrubbings and shampoings, and that the constant corporeal exercise proves beneficial. But why employ complicated and unnatural processes, when one or two cold baths in the day, with abundant exercise of the body, in a pure atmosphere, would be equally efficacious, and much more simple and agreeable to the feelings? The cold sheet, &c. as a means of inducing perspiration, next claims our attention. That a person of ordinary vigour of constitution, will per-

spire, and perhaps copiously, with a sheet dipped in cold water around his body, may appear paradoxical to a person who has never attended to the subject; but if we take into account the blankets, and possibly a feather couch, or covering of German formation, softly laid on his unfortunate shoulders, the wonder will cease, for then he may behold the vapour bath in full and effective operation. A mighty discovery, to be sure, is this very clumsy apparatus! It is quite clear, that if there be any animal *vis* in the person who is subjected to this process, the water with which the sheet was impregnated will be converted into vapour, exactly on the same principle as if heat were applied to it by any ordinary means; but the calorific principle may be wanting in many individuals of bad health, and hence there can be little or no warm vapour, and the invalid will thus be immersed in a cold and distressing perspiration. This must always be an inherent evil of the cold sheet apparatus, and when contrasted with the vapour or hot bath, must be admitted as inferior for general treatment. No doubt the hydropathist may attribute a portion of its effects to the immediate operation of the cold sheet, and the reaction which follows; but really this must be so short in its duration, in those who are possessed of the necessary calorific principles, that little value can be attached to it.* But those individuals who are capable of smart and prolonged exercise, or of considerable muscular exertion of other kinds, in an open and healthy atmosphere, do not generally require any of these artificial processes, and will be greatly more benefited by such means, as two sources of improvement are combined, viz. the purification of the blood, through the perspiratory process, and the stimulus to the circulation and all the functions derivable from the locomotion. Cold water, it is said, is a most sovereign cure for many local diseases, when applied topically, and that it can effect, in this respect, what even is the result of the ordinary blistering application. We have already admitted that the effects derivable from a reduction of temperature are very grave, nay, often very dangerous; and therefore we are also ready to admit that ice-cold water, and ice still lower in the scale, must also of necessity be most powerful agents, and they have been used by the regular profession for ages. At the present day, ice is a valuable agent in the treatment of hemorrhage and strangulated hernia; but no man with any experience of frost-bite, would use it as a counter-irritant to produce vesication or ulceration, in preference to other well-known means, for the very plain reason that the resulting ulcer is somewhat unmanageable. Cold-water dressings are also in common use for the treatment of local inflammations, ulcers, and are also employed in amputations, fractures, &c. Sprains of every kind, simple and severe, have, from time immemorial, been treated with vinegar and water; and it is thoroughly believed by every ex-

* In this respect the Russian method of rushing from the vapour bath, at a high temperature, and rolling in a stratum of snow, must be considered more powerful as an agent in stimulating the energies of the system, in the processes of physical regeneration.

perienced and sagacious old wife in the country, that an old sprain must yield up its pain and rigidity to the stream from a pump well, or to the small column of water which falls from the rock to the basin below. It is clear, therefore, that the hydropathists can claim no monopoly in this field; and even the douche, which is one of their grand agents, is it an invention of theirs? Has it not been employed in some of our watering-places, celebrated for the cure of gout and rheumatism, for a long period? Its utility is undoubted in many affections, and its application can, by simple means, be so regulated in force and temperature, as to render it an agent of considerable power. Its employment, however, must be directed with care, and regulated by a scientific person; for if employed injudiciously, in some inflammatory affections, particularly of the joints, or if the stream be allowed to descend upon the head with much force, dangerous consequences might be the result.

III. THE CURE AND TREATMENT OF DISEASES BY HYDROPATHIC MEANS.

In the consideration of this, the *experimentum crucis* of every system, we shall arrange our observations in the following manner:—1. Does hydropathic treatment produce more permanent stability, in the renovation of the system, than ordinary hygienic means, used regularly and systematically? 2. The treatment of general diseases by hydropathy. 3. Its substitution for allopathic treatment of every kind. 4. The dangers which accompany its indiscriminate or unscientific employment. It seems to be an impression derivable from hydropathic reasoning, and believed by many of its supporters, that the system is renewed or rebuilt with new materials, the old being expelled by the ascendancy of the new, and that this reconstruction as it were of the fabric, or physical regeneration, can withstand afterwards all ordinary sieges; and, moreover, that no other system can effect the same change. Were this true to the extent that they advocate, the result would be highly important. But such is not the fact; for though a very great and beneficial change is effected by these and similar hygienic means, and which may continue for an indefinite period provided the laws for preserving the general health be attended to, it undoubtedly always follows, as a necessary consequence, that if the habits or causes which produced the original illness be again recommenced, the renovated fabric is just as speedily displaced as its predecessor. And how can it be otherwise, when there is a constant removal of the old by the substitution of the new atoms, with a greater or less activity in all, the healthy as well as the diseased? Any man who calculates upon such a result, with the view of afterwards committing his former indiscretions, will be wofully disappointed; for the tenement which he inhabits can only be kept entire by the constant preservation of a pure and uncontaminated vital fluid in the circulating organs. Their cure of all diseases is explained

by them chiefly on the law which has now been alluded to; and were it as powerful in the removal of diseased products of an organic kind, as in relieving the system of certain impurities circulating in the blood, mighty would be its consequences in the diminution of mortality; but it is almost as powerless as homœopathy itself upon the whole tribe of these intractable diseases. Having characterised their treatment as calculated, in some measure, to free the circulating fluids of the system of extraneous and injurious substances, we are constrained to notice a strange inconsistency between their theory and practice; for purgatives find little favour in their eyes, and they act on the belief that the action of the bowels either has nothing to do with the matter, or must advance, in all cases, according to the frigorific or calorific forces of the cold sheet. In solving this question, we would simply ask, first, what organs supply the blood with *pabulum*? second, does imperfect or deranged digestion generate impurities? and third, if impurities be lodged in the bowels, will they not be absorbed in proportion to the length of their residence there? Assuming that the assimilating organs are the main sources of the pabulum of the blood—a doctrine admitted by all physiologists—it follows, that in deranged digestion, many substances foreign to its normal constitution find entrance; such as acidity, disordered bile, morbid secretions of other kinds, products generated by putrefaction, &c.; and the evidence for their existence there is derived from the fact, that the blood is often darker in hue, and the complexion tinged with bile. Besides, it is well known that sugar, urea, and pus, have been absorbed into the circulation from internal sources, and give rise to diseases of a very formidable character. Why, then, if the fountain and its channels of elaboration have become impure and stagnant, do they not remove this accumulation of deleterious matters, which not only enfeebles the assimilating organs by its organic bulk, but tends to progress in its poisonous decompositions according to the length of its residence? No doubt, it will be asserted that the functions of the bowels are restored under the influence of hydropathy. In many cases, this result follows all improvements of the general health; but in a certain proportion there is either a natural or morbid weakness of action in these organs, which hygienic and dietetic treatment cannot alone overcome. It may even be drawn from the relation of some of their own cases, that this is the result under hydropathic treatment. Now, it may be argued, that if the general health be restored, it is not of material consequence that the bowels should be habitually confined, as this is the test of the due performance of their functions; and that purgative medicines are always injurious to the action of the assimilating organs. This is true to a certain extent; or rather the position of the case is this,—if the bowels be regular in their functions interference is wrong—but if irregular, interference is necessary to prevent evils of more serious moment; the injury caused by a simple purgative being very small in amount, compared with that which is prevented. This is not all, however, for it presumes a

moderate amount of health as a concomitant of this state; but if we take a case of intense biliary derangement, accompanied with an inveterate obstinacy in the functions of these important organs, purgatives cannot be dispensed with, for the very plain reason, that the accumulated matters cannot be got rid of by any other means. This is nearly as clear a common-sense rule, derived from experience, as that a man who has swallowed some poisonous agent should take an emetic, if the offending substance be not ejected by spontaneous vomiting. The retention of the one, as well as the other, for a few hours longer than might be prevented, may prove either very deleterious to the system or fatal to the life. Hydropathy, even allowing its exaggerated effects on the bowels, cannot produce any movement so rapid as the urgency of such a case requires. In regard to the treatment of the naturally curable diseases by cold water, their apparent success will be nearly the same as that of others who have based their statistics upon a false principle of this kind; and we have the same answer to give to them, as we have already bestowed on the mesmerist and homœopathist—that their budgets of cases only prove that the patients got well, but not that their influence, in all the instances, was the cause of the result. Febrile diseases, such as typhus fever, small-pox, scarlet fever, &c. might naturally be considered under hydropathic influence, inasmuch as cooling and sweating measures are in general estimation; but this is by no means the fact, for the cold water treatment involves too much turmoil and fatigue, independent of other disadvantages, to suit the graver cases of such maladies. Let us take a case of typhus as an example, and see how the system will apply to this malady. In the early stages, when there is intense heat and thirst, cold affusion or the cold sheet may prove very grateful to the patient, and may seem to do good, by giving a temporary check to the rapidity of the circulation; but this stage over, and the disease still running its course with increased intensity, the powers of life begin to flag, and then such treatment is highly injurious, because it lowers the system, and the principle of reaction may be almost extinguished. Instead of such treatment, the judicious physician will manage the patient gently from the first, using cold applications or sponging with cold or tepid water, according to the nature of the case; and he will attend to the bowels, so as mildly to remove morbid accumulations, leaving him in a recumbent posture, and exposed to as little disturbance and turmoil as possible. Again, when the stage of exhaustion is approaching, cold must be employed with great caution, and in place of farther depressing the system, wine and light nourishment become imperatively necessary, with the view of supporting the machinery of life until a crisis ensue. The hydropathist can unquestionably quote his measure of success as equal, or probably, as he thinks, superior to that of others; but so can every fanciful believer in a sovereign remedy, whether it be the advocate of bleeding, the defender of regular opiates, the mesmerist, or the homœopathist, simply because a majority

recover, under almost any circumstances, and can withstand the inroads that are made on the powers of life; but those who are, as it were, suspended between recovery and death, cannot depend for their chances of the first, upon a system which is either heroic, deleterious to the brain, or intermeddling and exhausting to the strength. A fallacy, also, often enters into their statistical calculations of cure in this disease, in consequence of which typhus is often supposed to be checked in its early stages by a certain line of treatment; whereas the malady that has been cured is not true typhus, which may be guided but cannot be checked in its progress by any means at present known; but some other species of fever, which is either ephemeral in its character, or dependent on causes and circumstances which cease to be operative in a few days. The system is also radically defective, in that it recognises no other agent in the treatment but its modifications in the use of cold water. If, for instance, the bowels, urinary organs, or stomach, become specially deranged in their action, cold water would not act as a purgative, nor would it check diarrhœa, nor could it be depended on for relieving more or less suppression of urine; neither is it so likely to check vomiting, as several other agents employed by the profession. In the treatment of almost all other diseases, hydropathy is equally defective as a system. One or two illustrations will be sufficient to exemplify the matter, as we have not space here to enter into many details. Let us take a case of apoplexy; cold water to the head is, no doubt, a powerful remedy; but it can never supersede local treatment by leeches, cupping, blistering, and the beneficial operation of purgatives; because it is a disease often proceeding from a plethora of blood, and the cold water system cannot, with sufficient rapidity, act on the contents of the circulation. Suppression of urine, such as occasionally occurs in scarlet fever, and which is accompanied with infinite danger from the absorption of urea, cannot be treated properly by cold water; for though this agent copiously administered internally, has a certain diuretic power in ordinary cases, it is valueless in a disease like this; and no sweating, however powerful, could eliminate the poisonous ingredient from the blood. It is therefore found that general and local treatment to the region of the kidneys, accompanied with powerful purgatives and diuretics, are the only remedies that have any chance in restoring the secretion. Again, in hemorrhage from the lungs, cold water might naturally be supposed an infallible remedy for the disease; but such is not the fact, for if you apply cold water externally, the blood is repelled to the internal organs; thus increasing the chances of further rupture and disorganization of the blood-vessels. We have quoted these examples to show, that even in cases which might naturally be considered well adapted for such treatment, cold water alone can never effect all the beneficial objects that may be attained by other means. But if we take a case of retention of urine, how will cold water internally or externally applied, in any possible or conceivable form, dis-

pel the accumulation? By what channel can the remedy operate, if powerless over that which is manifestly the only egress? Will a many-plied apparatus of sheets, blankets, and feather couches, sweat out the offending accumulation from an organ remarkable for its strength and density, and which, from its very office, cannot naturally possess a porous texture? Such, however, has been attempted by a great apostle of the doctrine; and as his skill in surgical manipulations had not been cultivated with the same zeal and assiduity, as his audacity and tact in detecting human frailties, he scrupled not at an attempt to effect an impossibility, and to lay the foundation of a local disease upon his victim, nearly as incurable as it is painful and disagreeable. If a common labourer, without crotchets and with common sense in his head, had been consulted, he would follow the analogies of nature,—as, for instance, if a large dam collected for the driving of machinery were in danger of bursting, from an accidental accumulation of the water, with a large rent in its side, and spreading ruin and devastation through a multitude of dwellings in its course, it would never occur to him as possible that he could make the fluid ooze through its banks of clay, which are impervious to water, by means of heat, cold, or any other known power. He would undoubtedly have tapped the collection by a proper instrument, and thus would gradually relieve the embankment of the dangerous pressure. Such a plan was not adopted by this venerated sage, either by the ordinary instrument or by any similar means, for the relief of his suffering patient; but ignorance, dogmatism, and avarice often sway man's opinions into devious and iniquitous paths. The dangers that accompany the indiscriminate employment of hydrotherapy are not confined to cases of this kind. In all organic affections, that undermine the strength and break down the stamina, the use of such means is highly objectionable; such as cases of pulmonary consumption, organic diseases of the liver, bowels, kidneys, &c. cancerous or canceroid affections, which *in toto* constitute a large amount of formidable maladies. The incessant turmoil which must accompany the frequent bathings, scrubblings, and the cold sheet apparatus, cannot fail to destroy the comfort, as it must of necessity increase the emaciation and debility of the patient. It may perhaps be stated, that cases of this kind are not fitted for hydropathic treatment, or that a milder form of it is employed. In answer to the first allegation, supposing it correct, we would say that the assertion amounts to the admission that hydrotherapy never can be a substitute for general treatment; and if the second be founded upon, we cannot allow this mild modification to be general among the craft. Indeed it has, more than once, come within our own knowledge, that persons who laboured under the suppurative stage of phthisis, and within a limited period of their death, have been treated with cold water in the usual manner, without regard, and probably with little accurate knowledge, of the physical phenomena which are so diagnostic of this affection.

PURE EMPIRICISM, OR ARRANT QUACKERY.

"Ye ken Jock Hornbook i' the Clachan,
 Deil mak his king's-hood in a spluchan,
 He's grown sae weel acquaint wi' Buchan,
 An' ither chaps,
 The weans haud out their fingers, laughin,
 And pouk my hips."

This division conducts us to the very zero of the empirical scale; or, if the mode of graduation were reversed, to the point of *vaporisation*—at which the actors on this stage display much of their oratory and legerdemain. In a strictly moral point of view, they are sometimes not much inferior to some of the empirical sections we have already examined, but their vulgarity, ignorance, and glaring falsehood make their specific characters very distinct in the genus where we have placed them. In this respect they stand out in bold relief from their brethren, who array themselves in a scientific robe, and who shrink with intuitive disgust from their boisterous and unscrupulous vulgarities. The one shrouds his delinquencies with diplomatic ability; while the other is like the bold outlaw, who sets at defiance decency, common sense, consistency, and the course of all human experience. It is a difficulty of no small amount to account for the fact, that multitudes of human beings patronise and employ such individuals, who blazon forth to the public their accomplishment of well-ascertained impossibilities with the coolest effrontery; and who dupe their patients out of enormous fees by the sale of inert, injurious, or sometimes dangerous preparations. In a former part of our subject we have adverted to the general causes that predispose a certain class of men to become believers of any form of empiricism; and these apply with the same force to the section of pretenders at present under consideration. But—in addition to those who are led astray by some natural discrepancy in their reasoning faculty, by their imperfect scientific knowledge, or by specious verbosity—there is another class who are robbed of their money and consistency, chiefly because their mental as well as their corporeal powers have long sustained the enfeebling influences of disease. This class of individuals are entitled to our warmest sympathies; for they are generally incurables, who would naturally be disposed to treat with contempt quackery in all its modifications. The invalid, therefore, does not all at once descend

into the habitations of rank and undiluted empiricism, for this would be too startling to his moral sensibilities. Having, however, deserted his regular adviser, he scrutinises the outskirts of the regular profession, a kind of debateable land, sometimes occupied by those who frame their diplomas, or who boast of their certificates and qualifications, but who are wolves in sheep's clothing, and thoroughly imbued with the false and destructive venom of empiricism. Such pretenders have generally something in their exterior which is apt to dazzle or captivate a person of weak or inaccurate observation. He may be a person, perhaps, who is characterised by a face of ponderous gravity, as if the fate of the whole empire depended on his cogitations; or he may have the external figure and deportment of a dancing-master, and be dangling a cane formed with the same delicate proportions as himself; or he may be a person of mighty amplitude in his external configuration, with flowing investments, and as it were impelled in his locomotion by the combined powers of wind and steam. This last personage may possibly be gifted with an unlimited and overpowering verbosity, and may recount the hundreds of cases that he has rescued from the grave, who, but for his magic interference, were hastening thither with rapid and accelerated step. The skill of this infallible master of the art is forthwith put into requisition, and, after a trial of his multifarious and attractive preparations, the invalid thinks himself wonderfully improved. But this excitement is only temporary, for in a few days he awakes from his dream, and finds that his disease is still clinging to him with the same sad and determined pertinacity. He is now seized with a fit of desperation, like the gambler who risks his all on a throw of the dice, and he resolves to try some more potent spell. He is now found devouring, in the newspapers and at the corners of streets, the length and breadth of the cures that have been performed by the Balm of Columbia, Morrison's Pills, and Lignum's Drops, and the thousand other essences that have been distilled for the regeneration of man's physical nature. It is thus that an individual of originally high and unbending intellect sinks down into the most helpless imbecility, and at last becomes the dupe of those for whom at one time his contempt was immeasurable. It is astonishing how long a patient will allow himself to be treated, without benefit, by almost all of this class of empirics; and when contrasted with his comparatively little perseverance in the plan of the regular practitioner, it is plain that his faith is founded on the belief of false or exaggerated promises. This is so contrary to all the laws which ought to regulate the conduct of men gifted with reason, that it behoves us shortly to advert to its probable origin.

SOME CHARACTERISTICS OF QUACK DOCTORS.

1. Quack doctors generally possess some external qualities of form, appearance, or dress, which are calculated to produce an impression of

greatness in the mind of their patient. 2. They are generally capable of falsehood in its most deliberate and unscrupulous malignity. 3. They generally have the address to extort large fees from their employers. This generation intuitively appreciate the value of external circumstances, in the production of vivid and inspiring impressions on the public, and seldom fail to effect their object to a greater or less extent. The decorative arts are in great requisition among them, and it is rare that tinsel, more or less out of taste, is not found in gorgeous profusion in their emblazoned establishments. Their own persons, also, are generally illuminated by jewellery and gems, not always of the purest water; while a large gold chain, with huge seals—a fit ornament for some member of the elephantine family—swings like a pendulum, being a symbolic invitation to the wayworn invalid, that “now is your time.” A splendid turn-out of a carriage and pair, or tandem, is not wanting to complete the farce, radiant with silver and brass, with milk-white steeds taught to caper and dance in ecstasies of delight, and as if rejoicing in the honour of bearing, in his triumphal ear, their lord and master. It is somewhat strange that, in a country remarkable for its comparative morality, falsehood should be a passport to popularity and influence, in any department of life; such is the fact, however, for sober truth has few charms in the eyes of enthusiasts, and those who have been reduced to a similar state by bodily disease; and it is only an averment of a marvellous or exaggerated kind that can find a lodgment in a mind so ill regulated. The extent to which this has been and is at present carried is altogether incredible, did we not possess evidence and palpable illustrations of the extraordinary extent of human credulity. Let us, for instance, take the asseverations respecting “the universal medicine,” composed of substances in every-day use, viz. aloes, gamboge, and cream-of-tartar, and then compare its power with the flagrant falsehoods published regarding it. These pills, it is said, so thoroughly purge out every diseased humour from the blood, as to cure every malady incident to the human body. But the author, encouraged by an unexampled sale of his heaven-born restorative, goes a step beyond all his competitors in flagrant assertion; for he broadly maintains that small-pox in the child may be prevented, by its exhibition to the mother while *enceinte*. That such and similar statements were believed, is proved by the fact that the medicine was in universal use, for several years, in all parts of the country. A third element of the empiric’s success is the exorbitant fees he exacts from the public. This, like the preceding characteristic, at first view may appear untrue, impossible, or paradoxical; for why would the cautious Saxon make so foolish a bargain, or pay without value received? That the value received is *nil*, is just as certain as that the payment is exacted, but, nevertheless, there is a bargain founded on a promise which is false, and a faith which is illusory. The agreement is clearly founded on a false and deceptive principle, and being so, plainly reduceable on the common principles of law and equity. And why are these impostors so rarely in-

dicted for swindling? For two reasons, first, because the deceived invalid shrinks sensitively from public exposure; and second, because the money being generally paid in advance, is, like the plunder of the outlaw, rarely recoverable, being rapidly melted in the crucible of extravagance and debauchery. Beholding all this done in the open face of day, why are men thus duped to contribute the enormous fees that are demanded? Because they believe their statements, and consider these payments the measure of their superior acquirements. If the public were correct in their observation and belief that the quack doctors could perform what they said, it would follow, as a necessary consequence, that the latter were entitled to whatever fees they might choose to ask; for the benefits would be beyond all human calculation, disease and mortality being banished from the earth. But it is equally true that if the whole be a tissue of deception, they have no claim to a high fee, or to any remuneration whatever. The fees given to ordinary practitioners may serve to illustrate this; for though the public—even the invalid, weakened by disease—would contest the demand of a sum, such as he might readily give to a quack doctor; yet he knows well that a man of great experience, talent, and reputation among his professional brethren, is entitled to ask and obtain higher fees than one who has a smaller name and experience, for the plain reason that his opinion and recommendations are more valuable than that of the other. The same distinction is made in painting, sculpture, and other departments of the fine arts; and a very superior artist will obtain a price for his performance, which his junior would never for a moment consider possible in his own case. In all these cases you have value received, for no deception of any kind has either been practised or intended; while in the case of the quack doctor, falsehood and failure have begun and ended the transaction. In order to illustrate this department of the subject a little further, we shall shortly review the principal divisions of what may be called the Mountebank Doctors.

I. HERBALISTS.

It is a kind of intuitive belief among the lower classes, and even among some of those superior to them in rank, that herbs or vegetables are a safer and generally more certain means of curing disease than mineral preparations. They seem to hold the ancient opinion, that nature has designed a particular herb for the cure of every special disease; and that any amount of those muddy decoctions, which are made by the “herb doctor,” may be swallowed with impunity. The individuals who devote themselves to this department of imposition have generally acquired a smattering of botany, and can rattle over a multitude of scientific sounding names with amazing volubility. Their outward appearance is intended to represent something of the practical gardener; but the impudent effrontery of the itinerant showman is stamped on the forehead. Their eloquence

is fluent and exalted, and they can descant, with abundant fervour, on the wisdom of the Creator in providing such a multitude of herbs for the benefit of the human race, who, without their aid, would be hastening fast to an untimely grave. On the other hand, the graphic tongue of such a sage can describe, in glowing colours, the destructive nature of minerals, with their necessary tendency to precipitate patients into the very habitations from which they were dug; and contrast their direful influences with the vivifying power of vegetables, which cause man to flourish like the lily of the valley, and mount into the heavens like the cedars of Lebanon. These worthies also find it advantageous to exhibit specimens of their wares, consisting of

“ Horehound, sage, mint, and thyme,
With hyssop, famed in every clime.”*

A few of this fraternity also deal, to a certain extent, with the herb named *savin*, and profess a mysterious knowledge of its powers in preventing those results which might prove serious to the reputation of a fair name. As this, however, belongs more strictly to the department of legal jurisprudence, it is unnecessary to enter further into the subject; for a stern lawyer is the most fit person to deal with such a section of vipers. The herb doctor also, with the culinary and valuable assistance of his partner in life, forms salves for the speedy and infallible cure of burns, cancers, and scrofulas of every hue. Some of these compounds are black, others green, while the greater part, to use a painter's phrase, are of a “sad colour.”† Most of these are not injurious, though inferior in several respects to the ointments of the apothecary, being generally composed of axunge, oil, wax, litharge, &c.; although some of the more daring and reckless of the tribe sometimes dabble in arsenic and corrosive sublimate. The herbalist has also some pretensions to the important calling of “worm doctor,” and can exhibit many hundreds of specimens of vermiform animals, to the astonishment and applause of credulous matrons, who are almost petrified that their offspring should be nurseries for such monstrosities. The vermicular doctor can also point out, to his excited auditory, the great facility with which the *lumbrici* can with their sagacious snouts penetrate through the stomach, and work a subterranean passage into the region of the liver, and other snug neuks and bays in the vicinity, and there plant a colony for behoof of posterity. Having thus roused the fears and apprehensions of the admiring crowd, his decoctions of tansy, his spirituous infusions of rue, and his vegetable powders, consisting chiefly of calomel and jalap, are forthwith in great requisition; and he vows before the shrine of Culpepper, the demi-god of these impostors, that the united forces of the *lumbrici*, the *tenice*, and the *ascarides*, will be scattered like chaff before the wind. One or two other ramifications

* Old Rhyme. † Something like a dirty brownish green.

of this division might have been mentioned, such as are alluded to by the immortal poet Burns, in one of his celebrated verses; but our space ought not to be occupied with a superfluous amount of such trash.

II. BONE-SETTERS.

Bone-setters, being a stout, brawny, and combative fraternity, we must challenge to the lists. This occupation is often a compound one; for they unite with it that of attending to the diseases of cattle, and even descend into the regions of pigs, dogs, and cats. These persons, in their outer man, are a little different from the herb doctor, being apparently more akin to the carnivorous than the herbivorous race of animals; and often merit the title of "whiskerandos" in a superlative degree, with a kind of braggadocio ferocity of countenance, a swaggering gait, and large superior extremities, which serve as indices of the herculean power required in their important occupation. Their knowledge of human osteology has generally been derived from their scientific researches into the diseases and accidents of the domesticated quadrupeds; hence professional accuracy and sound treatment are naturally to be expected from so excellent an analogy. This is a calling which in some instances has proved hereditary, descending from father to son, and even to the third generation; and we have heard of a regular practitioner who acquired much local fame, in the treatment of fractures and dislocations, because his grandfather was a celebrated manipulator in bone-setting. This brotherhood have a wonderful facility in discovering dislocations that do not exist, and seldom fail to imitate, by a sleight-of-hand movement of their own fingers, the characteristic snap which is often felt and heard when bones are put into their natural situation. Great and incurable injury is sometimes done to a diseased joint by the pulling, nibbling, and rubbing of a rough and gigantic bone-setter; and it will require no reasoning to show that a joint, in high inflammation from disease or injury, will be rendered much worse by violent straining and other coarse manipulations. It is a practice of this knowing tribe of deceivers to seal up the joints or limbs that have been submitted to their treatment for a certain period; and they generally apply plasters and bandages to such an amount, and give so many injunctions respecting their non-removal, as to render the inspection of the limb, by a qualified practitioner, next to impossible. A treatment of a similar kind might, under certain circumstances, be proper enough for some chronic affections of the joints; but it is manifest, from their reckless manipulations, that they can have no honest regard for the consequences, while they thus effectually prevent the patient from slipping out of their plundering grasp. We have known more than one incurable ankylosis of the elbow joint produced by the tight and long continued bandaging of a bone-setter, in cases of fracture of the condyles of the humerus.

III. ADVERTISING QUACKS.

The preceding species of quacks, withering and debasing as they are in their effects on the community to which they belong, are trifling evils in the commonwealth when compared with those under review. The persevering falsehoods which they publish, and the money which they extort from the public and from many a poor and forlorn invalid, are beyond all calculation; and it would be a task of no ordinary labour to any of our talented statistes, even with the requisite data, to determine the amount of their malignity, and the millions which are greedily extorted and devoured by these unscrupulous and unprincipled men. The advertising columns of some of our widely circulated journals are often full of their fulsome and indecent announcements; and it would be contrary to all experience to conclude that such repeated and expensive experiments were not amply remunerative to the authors and abettors of such iniquity. The very fact that many of these individuals have accumulated fortunes, and others have lived for years with almost unexampled splendour, while the great mass of them realise much more for their labour than the regular practitioner, are amply sufficient of themselves to justify our statement. And what do their advertisements and Lilliputian publications generally contain? They announce generally some hypothetical absurdity about the impurity of the blood, asseverate the certain cure of every fatal ailment that flesh is heir to, and end with certificates from Joseph Diddlem or Jeremiah Juggleall; and sometimes from one who might be supposed to personify some noble member of the aristocracy, or be celebrated in the circles of fashion or in the arts and sciences. We cannot encumber our pages by the quotation of such contaminated bathos, and we hope that such is not here required; for any sober thinking man may satisfy himself by turning up a few of the advertising columns in which they are generally inserted. As an example of these numerous but clap-trap advertisements, we have appended, in a note, an extract from one of this class.* But it may be asked, by some sage and cautious inquirer, is there no exception to such wholesale condemnation of empirical remedies; and does the mere fact of their being stamped, as duty-paying articles, necessarily sink them to the lowest degradation? We answer, no; for there are a few exceptions to the rule, as there are to all rules, and were the amount of these calculated and computed with the whole number, they would

* Old Dr. Jacob Townsend's American Sarsaparilla. "Acting specifically on the blood, and through that upon all the organs and tissues of the body; this Sarsaparilla neutralises the sharp biting acids of the system, destroys and removes all peccant humours and virulent substances from the blood which cause blotches, pimples, gross eruptions of all kinds on the face, neck, and breast; removes sourness, heartburns, and flatulence; allays inflammation of the bowels, lungs, liver, and kidneys; and completely sweeps out of the body, corruptions, infection, and disease." Marvellous, certainly, for so simple a medicine!

constitute a mere fraction of the powerless, deleterious, or dangerous aggregate of their sealed and emblazoned trumpery. Advertising quacks, like their homœopathic and mesmeric brethren, also get the credit of cures which happen upon the principle *post hoc ergo propter hoc*; but this, as we have already endeavoured to show, is tantamount to a cure performed by nature and not by art; such cases only occurring where the disease is simple, or where a process of time must necessarily elapse before the change is effected. In this respect some of the tribe avail themselves of fortunate chances with great skill; and one successful case of this kind may realise an enormous amount of fees to one who is an adept in duping the public. Will the Legislature of our country do anything to remedy this disgraceful evil? This is problematical; and we are of opinion that, as directly against the practice of quackery, a statute would be difficult to manage, except in the usual manner by the public prosecutor when obvious injury had been inflicted. But it might easily be checked indirectly, by an enactment allowing no man to prescribe or practise, as a practitioner of medicine, without a licence. This plan is in operation in some continental countries; but it has hitherto been considered, by our Legislature, opposed to the free liberty of the subject, viz. that he may buy his commodities from whom he pleased, and swallow them or not as he thought proper. This enunciation may appear theoretically correct, although in practice it is not so with regard to medicine, for the very obvious reason that a non-professional man is a judge of bread, butter, and tea, but he is not, and can never be, a judge of the composition of pills and potions, and therefore cannot determine their fitness for the purpose intended, in the same way as he can estimate the nutritive value of dietetic articles. The whole matter is based upon the skill and intentions of a set of men who are regulated by no principle of morality or conscientious dealing. The public are thus only defended from poisoning, or gross outrages on their physical frames; while the thousands of minor though flagrant injuries are totally unprovided for. If it be right to protect the young children employed in a factory from an over-straining of the system by labour, it must be equally right to protect those who are as ignorant of the injurious effects of the quack doctor's prescription, as a young boy or girl is of the injurious operation of too long confinement and too hard work. It may possibly be alleged, by some defenders of the system, that the analogy here brought forward is not a fair one, in so far as the one party is not arrived at the years of discretion, while the other is of mature age; but it is clear that mature age, in this view, must imply competency of judgment, a consummation not possible from the very nature of the case. But it may be said that an enactment, intended to put the whole country under the medical guidance of the regular practitioner, would be accompanied with grievous disadvantages, in so far as the public was concerned; for it would leave many thinly-populated districts without a medical attendant, and prevent "skilly old women" and sagacious old

men from administering to the comfort of their fellow-creatures, by simple medicines and appliances, and in giving assistance in obstetric cases. Moreover, it might be said that it would interdict those preparations sold under patent that are really good. Such a stringent enactment is by no means required, for it could be only legitimately directed against a man who made medicine his calling, or a part of his employment, for value received; and with regard to secret remedies or preparations, a committee, appointed by the Government, of competent individuals, who had nothing but truth and science as their object, might determine the merit or demerit of every such pretension. Although we think it unlikely, in this age of surplus aspirants to the various professions, that there could be any lack of licensed practitioners for the wilder districts of our country, it is nevertheless possible, and might be attended with some disadvantages, but not to the extent that many people imagine. A competent practitioner is a most valuable member of the community to which he belongs; but if otherwise, or if he be constantly floundering in blunders, or be rash and interfering, when he ought to be patient and gentle, the people would be better without him; for there is much less risk in leaving a large majority of cases nearly to nature, or to the simple treatment of a sensible and experienced person, than in pursuing in every instance a rash and unscrupulous activity.

FINAL OBSERVATIONS ON EMPIRICISM.

In the summing up of our observations on Empiricism and its principal ramifications, it may prove useful, as it is obviously expedient, to try the question, What would be the result to mankind, and what its moral effects on the community, if the whole practice of medicine were in the hands of quack doctors and their carefully whitewashed confederates? During the dark ages, the practice of physic was in a great measure empirical, partly because comparatively little of the true science was known to its professors; but also from the gross and credulous superstition which universally prevailed. It thus happened that herbs, a variety of absurd manipulations, with rites and ceremonies, obtained a credit for virtues and powers, which modern investigators into the science of therapeutics have found totally untrue and illusory. For example, if we examine any of our ancient collections of recipes, or even our very old dispensatories, the truth of this remark will at once become apparent, for with a few notable exceptions, the whole is a laborious chaos of fanciful, credulous, superstitious, and sometimes knavish construction. The physical effects of the treatment on the malady were therefore attributable only to the imagination, with those exceptions, when right principles were followed, or when violent or dangerous substances were tampered with, there being little know-

ledge, care, or skill in their application. And how did morals and medical science progress during such a state? Vice, chicanery, and deceit were rampant over the land; trickery, delusion, and legerdemain being the necessary results of a contempt for truth and an opposition to true science. What happened then would again be repeated, were an empirical generation to hold the sway and the whole practice over this enlightened land. The science of Anatomy would be pronounced unnecessary, because the clairvoyant could read the interior of a living invalid, as well as the scalpel of the skilful inspector could unravel the disease among the structures of the human frame. Chemistry would be considered useless, except in the preparation of homœopathic globules; and the skill required would be confined to a knowledge of trituration in a miniature pestle and mortar, with initiation into the mystical shake of the phial, and a schoolboy's knowledge of simple addition, division, and multiplication. The Practice of Medicine would be at its maximum result; for though it could not prevent death and dissolution it could cure every ill that flesh is heir to. Medical Jurisprudence would be a useless study to the man of enlightened medical science; for the mesmerist, far excelling the hundred-eyed Argus, could point at the murderer or assassin, although he were at the antipodes, or on his way thither by a subterranean road. Midwifery is rather a stumbling-block in the way of this generation, being comparatively little under the guardianship of anything but Nature's own law; but a few radiations of animal magnetism, or a bumper of the Balm of Gilead, can reduce this process to its primeval simplicity, and can contend successfully against all possible anomalies and difficulties. If such a calamity should ever befall this country, discord, immorality, and mercantile retrogression would follow in its train, as surely as they accompany every other great defalcation of truth and principle in a nation. But we trust this is far distant; although quackery has spread its roots far and wide among the free-thinking and shallow understandings of a pseudo-philosophic population, yet we feel assured that a nation that has combated long and successfully for true liberty and the Protestant religion, that is unrivalled for its sound enterprises and commerce, and that has gained the noblest laurels in science and philosophy, can never sink into such a deplorable state of imbecility, as to mistake falsehood for truth, a bauble or nonentity for a tangible agent, or believe that a simple fluid, in every-day use from time immemorial, can be rendered curative of every malady, or that some trumpery pill or liquid can cure diseases which notoriously carry off nearly a half of the human race. The Science of Medicine now stands upon vantage-ground which it never held before, and its rapid advancement in many collateral departments has given it a basis of solid and undoubted stability. Chemistry has thrown much new and accurate light upon our manipulations and formula for the preparation of medicines; Anatomy, normal and morbid, has been carried to great perfection, and the localities of disease can now be traced with a precision

unknown in the last century; Medical Jurisprudence has been greatly extended, and now comprehends certain and absolute tests and means for the detection of a large majority of cases of poisoning or murder: Midwifery has been rendered more scientific in its rules and adaptations for the treatment of difficult or preternatural cases of labour; Surgery has been improved by the discovery of new and better operations, and by their non-performance when a constitutional malady is in existence, whilst some have been superseded by appliances less terrible and dangerous than the scalpel. Although much is still obscure, Physiology has made rapid strides, and the diagnosis of many diseases has been rendered more certain by a careful consideration of its phenomena. The Practice of Medicine has also undergone many improvements, although it must be admitted that our incurable diseases and sweeping epidemics are still very intractable in their treatment; yet even these, and many others, are now managed with more enlightened knowledge, and, we think, also with somewhat more success. In the Sanitary department, medical science has given a powerful impulse to the improvement now in progress among our crowded populations; and it has clearly been established, from a great mass of undoubted evidence, that deficient ventilation, the crowding of many human beings together in one district, street, or habitation, with their necessary concomitants, filth and nuisances, are not only fatal beyond all *a priori* calculation to infants and children, but with equal certainty predispose the other inhabitants of the locality to the invasions of all our epidemics that seem to be propagated by malarious or contagious effluvia in the atmosphere. What have the mesmerists and homœopathists and their learned associates done in the investigation of this all-important and vital department? They are thoroughly innocent of all such attempts, for by a wave of the hand, or the distribution of a pocketful of tiny bon-bons among the smitten population, the deleterious impregnation is either dissipated into thin air, or tamed into due and harmless subjection! Hydropathy also, like a giant, stands in the breach, waving in triumph the wet sheet, which can crush like a moth, into non-existence, the mighty cholera or the destructive typhus! The emblazoned quack doctor, with innumerable shields garnishing his coat of chivalry, can guard, from the merciless intruder, every unhappy wight who pays the fees for his ambrosian cup; while, with bacchanalian fervour, he scouts the foe, and perils all in spouts of curse and banter.

Notwithstanding the formidable rivalry now alluded to, the Medical Profession still stands pre-eminent in the foreground, untainted in its science and honest in its pursuits. As a body, no doubt, medical men have never attained that influence and consideration to which their calling seems entitled; and this is partly owing to the defective regulations and irregularities which prevail respecting their education, licence, and corporate privileges; but much addition to their status might also be effected by themselves, by a high education, by persever-

ing study, and by an unbending obedience to the dictates of high honour and integrity. This consummation will assuredly be attained, to a greater or less extent; for the Science of Medicine is now so wide and extensive, and requires so much previous elementary education for its thorough comprehension, that no ordinary man, newly emancipated from the workshop, can ever expect to master its theories and precepts within a reasonable time. With this progression of the science, the public also will in due time keep pace, and become gradually more enlightened; and then comparative degradation and disappointment must be the doom of empirics of every shade and every pretension. In fine, before closing this subject, we feel an imperative call to advert shortly to one or two points in the teaching of medicine, of vital importance to the public as well as to the profession. Without entering into any disquisition respecting religious tests, or those special qualifications that render a man fit for a university chair,—we would simply ask the question, Ought a medical professor to be orthodox in his creed in all departments of the science, or is he required to be simply so only in his own department? We answer that he must be sound in his medical creed in all the divisions of the science, because one branch of medicine is linked inseparably with another; and though the doctrine that he generally teaches may seldom touch upon the heterodox ground that he elsewhere sedulously cultivates, it must of necessity sometimes do so, when its theories, connections, or applications are specially discussed. Besides, it is an established law in the operations of human influence, that the teachers of youth may beget error in the young by the force of example, or from the principle of imitation, even though his *ex cathedra* precepts may be guarded with judicial exactness. When the heresy is one that is merely *outré* or somewhat extravagant, the case is sufficiently bad; but if it be one that carries absurdity in its very front, and outrages all former philosophy and experience, its defenders ought either to walk out from the academic halls with a clean conscience, or be ejected into that *terra incognita* which they have discovered, and where they might reign triumphant among their own chaotic phantoms. But the potent talisman, the *aut vitam aut culpam*, at a touch of their magic wands, immediately springs up to their aid, from its generally undisturbed repository; and the transcendent philosophers sneak into its nook with instinctive sagacity. O! ye lawyers of the Northern Metropolis, ever distinguished for your learning, acuteness, and ingenuity, can you not transmute this plausible little word *culpa* into something tangible, for it often slips through your fingers as if it were a mere nonentity? Is the word so indefinite that it cannot include absurdities in doctrine, impossibilities in belief, and a glaring violation of a presumed contract, in the discharge of most important duties? If the law of the land be paralytic, from extreme age or other causes, can the great law of equity thunder any of its wholesome anathemas against such delinquencies? Ye shades of Black, Cullen,

Monro, Playfair, and Leslie, and ye who represent in greatness these illustrious names, which have shed such imperishable lustre upon your native land, can you contemplate with anything but scorn the men who have trampled on your high philosophy, and placed in substitution of your unerring demonstrations, visions of the brain, and fantastic atoms which can only be measured by the imagination?

